REPORT NUMBER: NCAPSIDE-MGA-2004-005

NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST

General Motors Corporation
2005 Chevrolet Equinox
NHTSA NUMBER: M50101

PREPARED BY:
MGA RESEARCH CORPORATION
5000 WARREN ROAD
BURLINGTON, WI 53105

Test Date: April 22, 2004

Report Date: May 28, 2004

FINAL REPORT

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
RULEMAKING
OFFICE OF CRASHWORTHINESS STANDARDS
400 SEVENTH STREET, SW, ROOM 5311
WASHINGTON, D.C. 20590

This final test report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, in response to Contract Number DTNH22-03-D-12005.

Prepared by: Shefalika Naik Date: 5/28/04
Shefalika Naik, Project Engineer

Reviewed by: David Winkelbauer Date: 5/28/04
David Winkelbauer, Facility Director

FINAL REPORT ACCEPTED BY:

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COTR, Side Impact

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Date of Acceptance

Technical Report Documentation Page

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15. Supplementary Notes

16. Abstract

A 55/28 km/h 90° Moving Deformable Barrier NCAP side impact was conducted on the subject 2005 Chevrolet Equinox to obtain new car assessment and research data indicant of FMVSS No. 214D performance. The test was conducted at MGA Research Corporation, in Burlington, Wisconsin, on April 22, 2004. The impact velocity of the Moving Deformable Barrier (MDB) was 62.0km/h, and the ambient temperature at the struck side (driver's) of the vehicle was 21°C. The target vehicle's maximum post test static crush was 341 mm at level 3. The test vehicle's occupant performance is as follows:

	DRIVER	PASS.
Left Upper Rib (LUR) Accel., g	57	41
Left Lower Rib (LLR) Accel., g	56	48
Lower Spine (T_{12}) Accel., g	57	60
Thoracic Trauma Index (TTI)	57	54
Pelvis (PEV) Accel., g	66	78
HIC	278	185

The doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.

17. Key Words New Car Assessment Program (NCAP) Side Impact Side Impact Hybrid III Dummy (SID/HIII) Occupant Side Impact Protection		*18. Distribution Statement* Copies of this report are available from: National Highway Traffic Safety Adm. Technical Ref. Division, Room 5108 (NPO-230) 400 Seventh Street, S.W. Washington, D.C. 20590	
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SECTION 1
PURPOSE AND TEST PROCEDURE

1.1 PURPOSE

This side impact test was conducted as part of the FY' 2004 test program sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-03-D-12005. The purpose of this test was to evaluate side impact protection in a 2005 Chevrolet Equinox manufactured by General Motors Corporation.

1.2 TEST PROCEDURE

The side impact test was conducted in accordance with the Laboratory Test Procedure for New Car Assessment Program Side Impact Testing dated November 2002 and the corresponding MGA Research Corporation Test Procedure MGA-NHTSA5. The procedures for receiving, inspection, testing, and reporting of test results are described in the test procedures and are not repeated in this report.

MGA does not endorse or certify products. The manufacturer's name appears solely for identification purposes.

SECTION 2

SUMMARY OF NCAP SIDE IMPACT TEST

2.1 SUMMARY OF SIDE IMPACT TEST

A model year 2005 Chevrolet Equinox was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 62.0 km/h. The specified impact velocity range is from 61.1 to 62.7 km/h. The test (target) vehicle was stationary and positioned 63° to the line of forward motion. The weight of the vehicle as tested was 2018.9 kg and the test weight of the MDB was 1361.2 kg. The test was conducted at MGA Research Corporation in Burlington, Wisconsin, on April 22, 2004.

One (1) real-time motion picture camera and twelve (12) high-speed motion picture cameras were used to document the impact event. The pre-test and post-test conditions were recorded by one (1) real-time motion picture camera. Camera locations and pertinent camera information are documented in the data sheets. Pre- and post-test photographs of the vehicle and Side Impact Dummies (SID/HIIIs) can be found in Appendix A. Two 50th percentile adult male SID/HIII's were placed in the driver and left rear passenger designated seating positions according to instructions specified in the Laboratory Test Procedure for New Car Assessment Program Side Impact Testing dated November 2002. Each SID/HIII was instrumented in the following locations:

- Left Upper Rib (LUR) uni-axial accelerometer (Y-axis primary and redundant)
- Left Lower Rib (LLR) uni-axial accelerometer (Y-axis primary and redundant)
- Lower Thoracic Spine (T12) uni-axial accelerometer (Y-axis primary and redundant)
- Pelvic (PEV) section uni-axial accelerometer (Y-axis primary and redundant)
- Head Center of Gravity (CG) tri-axial accelerometers (X, Y and Z axes primary and redundant)
- Upper Neck load cell (Fx, Fy, Fz, Mx, My, Mz)

The test vehicle was instrumented with twenty one (21) structural accelerometers and the MDB was instrumented with six (6) accelerometers and two (2) contact switches on the bumper to compare left side to right side bumper impact timing. All data channels were recorded with a fully self contained on-board EME Data Acquisition System. The data was digitally sampled at 10,000 samples per second and processed per Appendix V of the Test Procedure.

2.2 GENERAL COMMENTS

The test vehicle sustained a maximum static crush of 341 mm at level 3, 1500 mm rearward of the left vertical impact point. The driver and passenger SID/HIII's, Serial Nos. 904 and 271 respectively, were calibrated just prior to this test. The SID/HIII's injury criteria are summarized as follows:

Measurements	Units	Driver	Passenger
Thoracic Trauma Index (TTI)	G's	57	54
Peak Pelvic G's (PEV)	G's	66	78
Head Injury Criteria (HIC)	none	278	185

Test summaries and post-test observations are presented in Section 3. The vehicle, camera, and occupant measurements are presented in Section 4. Appendix A contains the still photograph prints. Appendix B contains the driver and passenger SID/HIII's, vehicle, and MDB response data traces. Appendix C contains the SID/HIII's configuration and performance verification data. Appendix D contains the test equipment information.

TEST NOTES

There was questionable data collected for the following channels:

Passenger Pelvis Contact - No valid data collected after 40ms

Passenger Lower Rib Yr – No valid data collected after 45ms

The door accelerometers were not mounted on the car as per the request of the manufacturer.

SECTION 3

SIDE IMPACT HYBRID III DUMMY (SID/HIII) AND VEHICLE TEST DATA

Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04

CONVERSION FACTORS USED IN THIS REPORT*

Quantity	Typical Application	English Units	Metric Unit	Multiply By
Mass	Vehicle Weight	lb	kg	0.4536
Linear Velocity	Impact Velocity	mile/h	km/h	1.609
Length or Distance	Measurements	in	mm	25.4
Volume	Fuel Systems	gal	liter	3.785
Volume	Small Fluids	oz	mL	29.573
Pressure	Tire Pressure	lbf/in^2	kPa	7.0
Volume	Liquid	gal	liter	3.785
Temperature	General Use	°F	°C	=(tf -32)/1.8
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf/ft	Nm	1.355

*Based on the Recommended Practice in SAE J916, May 85

DATA SHEET NO. 1

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04

TEST VEHICLE INFORMATION

Make	Chevrolet
Model	Equinox
Body Style	SUV
NHTSA No.	M50101
VIN	2CNDL23F156006601
Color	Silver
Delivery Date	4/06/04
Odometer Reading (mile)	38
Dealer	Boucher Chevrolet
Transmission	Automatic
Final Drive	AWD
Number of Cylinders	6
Engine Displacement (L)	3.4
Engine Placement	Lateral
Automatic Door Locks (ADL)	No
Owner's Manual Details Instructions on Disabling ADLs	NA

TEST VEHICLE OPTIONS

Front Airbag	Yes
Side Airbags	No
Power Windows	Yes
Power Steering	Yes
Power Door Locks	Yes
Tilt Wheel	Yes
Air Conditioning	Yes
Power Brakes	Yes
Disc Brakes, Front	Yes
Disc Brakes, Rear	Yes
Anti-lock Brakes	Yes
AM/FM/CD	Yes
Anti-theft System	No
Cruise Control	Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	General Motors Corporation
Date of Manufacture	03/04

GVWR (kg)	2300
GAWR Front (kg)	1150
GAWR Rear (kg)	1150

DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	240	240
Cold / Test Pressure (kPa)	210	210
Recommended Tire Size	P235/65R16	P235/65R16
Tire Size on Vehicle	P235/65R16	P235/65R16
Tire Manufacturer	Bridgestone	Bridgestone

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench	NA	
Number Of Occupants	2	3	0	5
Capacity Wt. (VCW) (kg)				564
Cargo Wt. (RCLW) (kg)				224

DATA SHEET NO. 1... (continued)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW) (Axle)			As Tested (ATW) (Axle)		
		Front	Rear	Total	Front	Rear	Total
Left	kg	485.8	384.7		530.7	515.3	
Right	kg	490.8	365.6		502.1	470.8	
Ratio	%	56.6	43.4		51.2	48.8	
Totals	kg	976.6	750.3	1726.9	1032.8	986.1	2018.9

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1726.9
Weight of 2 P572E ATDs	kg	161.5
Rated Cargo/Luggage Weight (RCLW)	kg	136.1
Calculated Vehicle Target Weight (TVTW)	kg	2024.5

* Actual As Tested Weight (ATW) will be TVTW -5/-10 kg

TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG(aft of front axle)
As Delivered	mm	805	811	825	831	1243
As Tested	mm	794	801	780	795	1397
Fully Loaded	mm	794	801	780	795	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2860
Total Vehicle Length at Left Side	mm	4627
Total Vehicle Length at Centerline	mm	4750
Total Vehicle Length at Right Side	mm	4628
Total Vehicle Width	mm	1805
Weight of Ballast in Cargo Area	kg	111.1
Amount of Stoddard Solvent in Fuel Tank	liters	59.1

TEST VEHICLE VERTICAL IMPACT LINE DATA

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2860
Target Impact Point Aft of Front Axle	mm	490
Actual Impact Point Aft of Front Axle	mm	511

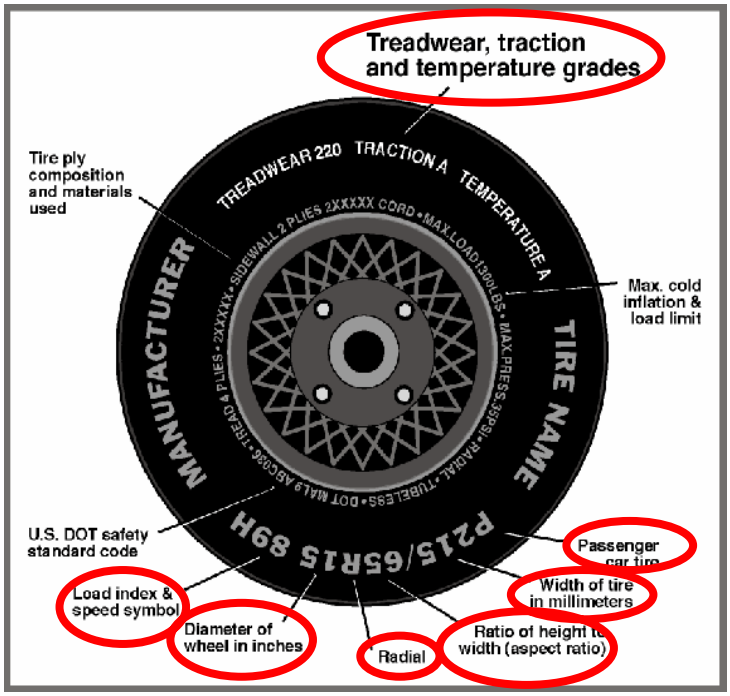
DATA SHEET NO. 2

TEST VEHICLE TIRE INFORMATION

Test Vehicle: 2005 Chevrolet Equinox
Test Program: NCAP Side Impact

NHTSA No.: M50101
Test Date: 04/22/04

Vehicle Year	2005	Vehicle Make	Chevrolet
VIN	2CNDL23F156006601	Vehicle Model	Equinox



	Front	Rear
Tire Manufacturer	Bridgestone	Bridgestone
Tire Name	Dweller H/T	Dweller H/T
Tire Type	Light truck	Light truck
Tire Width (mm)	235	235
Ratio of Height to Width (aspect ratio)	65	65
Radial	Yes	Yes
Wheel Diameter	16	16
Load Index & Speed Symbol	101S	101S
Treadwear	360	360
Traction Grade	B	B
Temperature Grade	B	B

DATA SHEET NO. 3

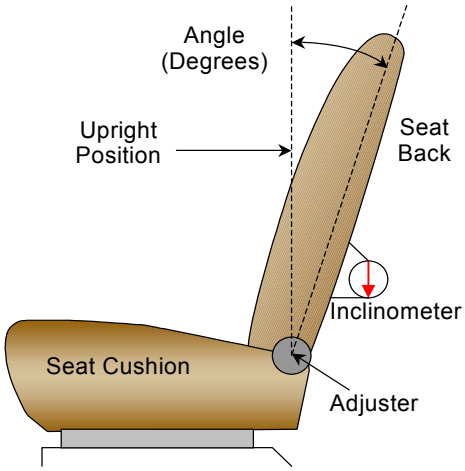
TEST VEHICLE INFORMATION

Test Vehicle:	2005 Chevrolet Equinox	NHTSA No.	M50101
Test Program:	NCAP Side Impact	Test Date:	04/22/04

NORMAL DESIGN RIDING POSITION

The driver and passenger seat back is positioned to the manufacturer's designated angle. The procedure is as follows:

Measure 4.5 degrees when inclinometer is positioned across headrest support posts.



FRONT SEAT ASSEMBLY

Driver seat back angle: 4.3° on headrest post

Left Rear Passenger seat back angle: 8.5° on headrest post

SEAT FORE/AFT POSITIONS

Position of the driver seat and the passenger seat:

Adjust the seat in the lowest position using the manual or power height adjuster. Place seat in full forward (1st position) and mark position relative to a non adjustable point on the car. Place seat in full rearward (25th position) and mark position. Bisect the difference. Mid position should be the 13th position.

Driver seat fore/aft total travel:	25 positions
Left Rear Passenger seat fore/aft total travel:	21 positions
Driver seat fore/aft position:	13 of 25 positions
Left Rear Passenger seat fore/aft position:	11 of 21 positions

DATA SHEET NO. 3... (continued)

TEST VEHICLE INFORMATION

Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04

FUEL TANK CAPACITY DATA

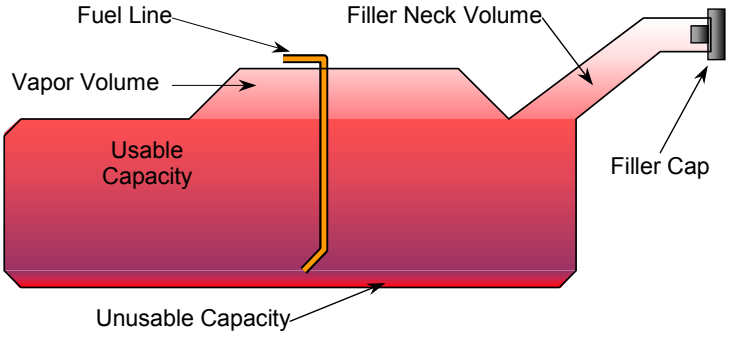
The "Usable Capacity" of the standard equipment fuel tank is: 63.6 liters

The "Usable Capacity" of any optional equipment fuel tank is: N/A liters

The "Usable Capacity" used for certification to FMVSS 301 requirements: 63.6 liters

Actual amount of Stoddard solvent added to vehicle for certification test: 59.1 liters

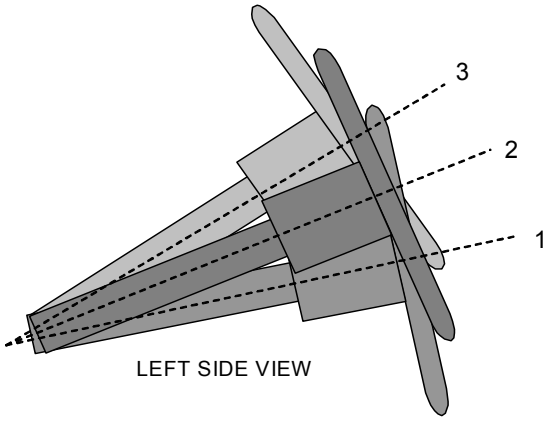
The pump will initially operate to charge the fuel lines to the system's working pressure and cycle 'on and off' per system demand.



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes, when it is moved through its full range of driving positions. Measure steering angle at highest and lowest point of column travel and bisect the difference. Mid-span should measure 24 degrees.



STEERING COLUMN ASSEMBLY

Lowermost, position 1: 20.8 °

Geometric center, position 2: 22.9°

Uppermost. Position 3: 25.0°

DATA SHEET NO. 4

TEST VEHICLE SUMMARY OF RESULTS

Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	485.8	384.7		530.7	515.3	
Right	kg	490.8	365.6		502.1	470.8	
Weight Ratio	%	56.6	43.4		51.2	48.8	
Totals	kg	976.6	750.3	1726.9	1032.8	986.1	2018.9

MAXIMUM EXTERIOR STATIC CRUSH

Level	Measured Parameter	Units	Maximum Crush	Above Ground
Level 1	Sill Top Height	mm	261	352
Level 2	Occupant H-Point	mm	329	635
Level 3	Mid Door	mm	341	708
Level 4	Window Sill	mm	209	1011
Level 5	Window Top	mm	33	1554
N/A	Maximum Penetration	mm	341	708

INSTRUMENTATION

Driver SID/HIII Instrumentation	22
Passenger SID/HIII Instrumentation	22
Vehicle Structure Accelerometers	21
MDB Accelerometers	6
Total	71

DATA SHEET NO. 5

MOVING DEFORMABLE BARRIER (MDB) SUMMARY OF RESULTS

Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04

MDB SPECIFICATIONS

Measurement Description	Length (mm)
Overall Width of Framework Carriage	1252
Overall Length Including Honeycomb Face	4115
Wheel base of Framework Carriage	2587
C.G. Location aft of Front Axle	1103

MDB WEIGHTS

	Units	Front Axle	Rear Axle	Total
Left	kg	449.4	239.9	
Right	kg	331.3	340.6	
Ratio	%	57.4	42.6	
Totals	kg	780.7	580.5	1361.2

SPEED AND IMPACT ANGLE DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	62.0
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	62.0
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	89.8

MAXIMUM STATIC CRUSH OF HONEYCOMB FACE

Vertical Location			From Centerline		Max. Crush
Level	Description	Height	Distance	Direction	
1	Center of Bumper (mm)	432	800	Left	166
2	Top of Bumper (mm)	533	800	Right	85
3	Mid Level (mm)	686	800	Left	104
4	Top of Stack (mm)	813	800	Left	140

MDB INSTRUMENTATION AND CAMERAS

Accelerometers	6
Contact Switches	2
High Speed Cameras	2

DATA SHEET NO. 6

POST TEST OBSERVATIONS

Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID/HIII	Rear Seat SID/HIII
Dummy Type / Serial No.	SID/HIII / 904	SID/HIII / 271
Head Contact	Headrest, Left Shoulder	Headrest, C-Pillar
Upper Torso Contact	Door Panel	Door Panel
Lower Torso Contact	Door Panel	Door Panel
Left Knee Contact	Door Panel	Door Panel
Right Knee Contact	Left Knee	Left Knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

Description	Front	Rear
Locked/Unlocked Doors	Doors were unlocked	Doors were unlocked
Left Side Door Opening	Door remained closed and latched	Door remained closed and latched
Right Side Door Opening	Door remained closed and latched; Door opened without tools	Door remained closed and latched; Door opened without tools
Seat Movement	0	0
Seat Back Failure	None	None

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	No Separation
Sill Separation	None
Windshield Damage	None
Window Damage	Left Front and Rear Broke
Other Notable Effects	Left driver and left rear passenger window broke.

AIRBAG DEPLOYMENT

	Driver	Front Passenger	Rear Passenger
Front	Yes	Yes	N/A
Side (Torso Bag)	N/A	N/A	N/A
Curtain	N/A	N/A	N/A

MDB LEFT EDGE IMPACT POINT DATA

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	21 mm rear
Vertical Offset	mm	+/-20	6 mm up

SECTION 4
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 7

SID/HIII INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04

THORAX AND PELVIS PEAK ACCELERATIONS (FIR 100 Filtered)

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Upper Rib (LUR)	Y	G's	57.2	35	-12.7	74	40.8	46	-4.8	91
Upper Rib (LUR) (R)	Y	G's	56.3	35	-11.9	74	41.9	46	-4.8	91
Lower Rib (LLR)	Y	G's	56.1	35	-11.5	75	47.9	43	-10.1	70
Lower Rib (LLR) (R)	Y	G's	56.2	35	-11.8	75	*	*	*	*
Lower Spine (T_{12})	Y	G's	57.4	39	-10.2	84	60.3	40	-23.0	73
Lower Spine (T_{12})	Y	G's	56.7	38	-10.1	84	59.8	40	-23.1	72
Pelvis (PEV)	Y	G's	66.1	30	-18.2	55	77.8	35	-24.9	84
Pelvis (PEV) (R)	Y	G's	66.2	30	-17.4	55	80.0	35	-20.1	85

* No valid data collected after 45 msec.

THORACIC TRAUMA INDEX (TTI) AND PELVIC ACCELERATION (FIR 100 Filtered)

Location	Driver				Passenger			
	LUR	T_{12}	TTI(g)	PEV(g)	LLR	T_{12}	TTI(g)	PEV(g)
Rib, Spine, and Pelvis	57.2	57.4	57.3	66.1	47.9	60.3	54.1	77.8
Rib, Spine, and Pelvis (R)	56.3	56.7	56.5	66.2	*	59.8	*	80.0

* TTI could not be calculated

HEAD CG PEAK ACCELERATIONS (SAE CLASS 1000 Filtered)

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	6.2	188	-16.0	82	2.5	48	-19.4	79
Head CG	Y	G's	23.7	84	-8.3	34	66.9	61	-10.9	43
Head CG	Z	G's	47.2	59	-5.3	44	15.9	67	-17.0	38
Head CG Resultant		G's	50.0	66			68.2	61		

HEAD INJURY CRITERIA (SAE CLASS 1000 Filtered)

Location	Driver				Passenger			
	HIC	T^1	T^2	Avg G's	HIC	T^1	T^2	Avg G's
Head CG	277.5	51.2	87.2	35.9	185.1	57.3	67.2	51.1

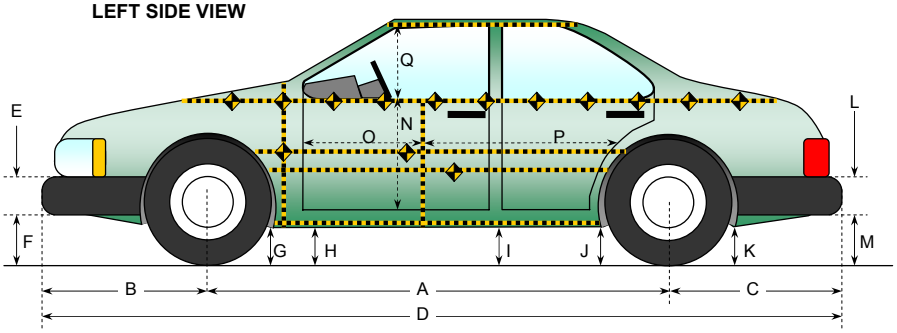
Positive Acceleration Polarities: Longitudinal (X) = Forward
(Conforms to SAE J211) Lateral (Y) = Right
Vertical (Z) = Down

DATA SHEET NO. 8

VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04

LEFT SIDE VIEW



All Measurements in mm

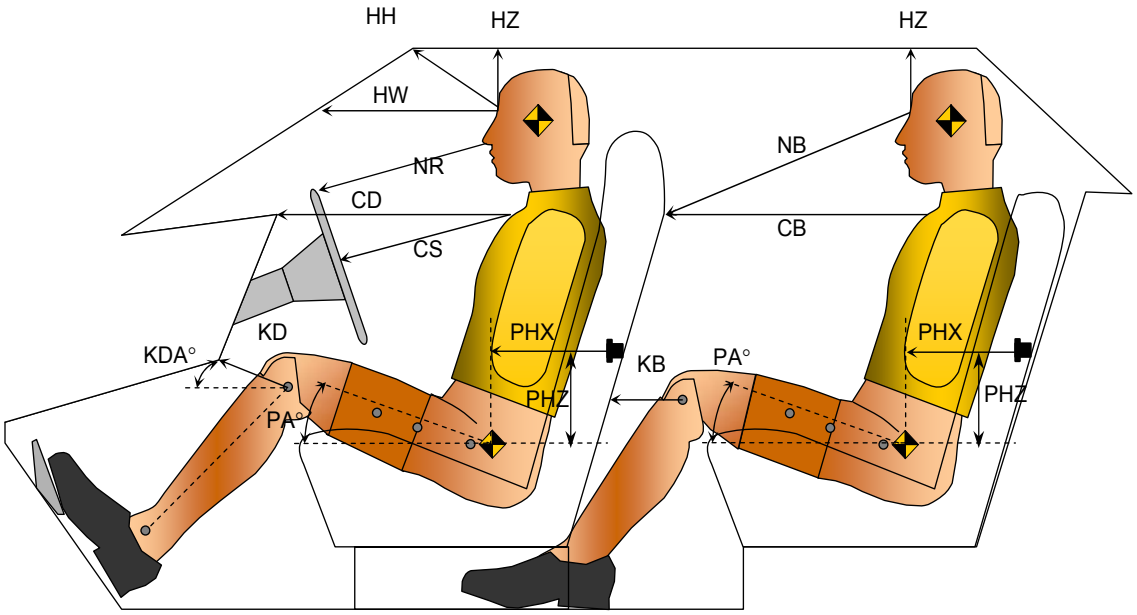
Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2860	2821	39
B	Front Axle to FSOV	940	857	83
C	Rear Axle to RSOV	950	975	-25
D	Total Length at Centerline	4750	4653	97
E	Front Bumper Thickness	232	232	0
F	Front Bumper Bottom to Ground	405	425	-20
G	Sill Height at Front Wheel Well	232	172	60
H	Sill Height at Front Door Leading Edge	233	216	17
I	Sill Height at "B" Pillar	220	239	-19
J1	Sill Height at Rear Wheel Well	206	244	-38
J2	Pinch Weld Height at Rear Wheel Well	212	249	-37
K	Sill Height Aft of Rear Wheel Well	282	274	8
L	Rear Bumper Thickness	224	224	0
M	Rear Bumper Bottom to Ground	354	345	9
N	Sill Height to Window Bottom Sill	738	678	60
O	Front Door Leading Edge to Impact CL	774	703	71
P	Rear Door Trailing Edge to Impact CL	1364	1210	154
Q	Front Window Opening	460	455	5
R	Right Side Length	4628	4662	-34
S	Left Side Length	4627	4573	54
T	Vehicle Width at "B" Post	1805	1533	272

DATA SHEET NO. 9

SID/HIII LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2005 Chevrolet Equinox
Test Program: NCAP Side Impact

NHTSA No. M50101
Test Date: 04/22/04

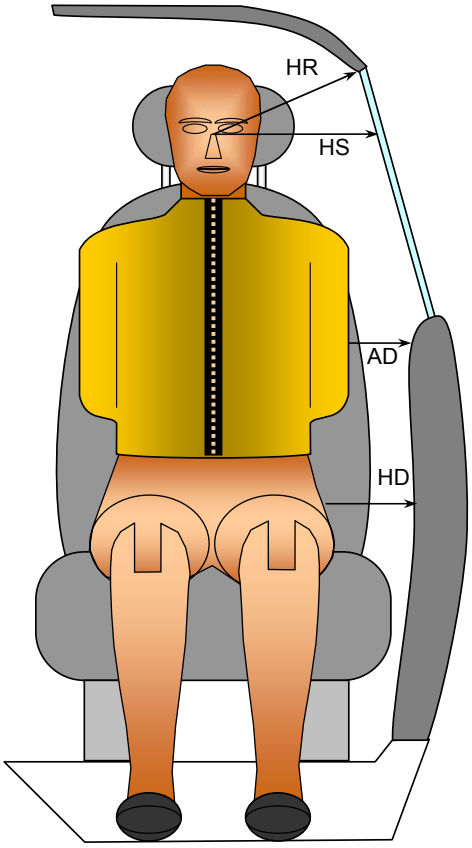


Driver Code	Pass. Code	Measurement Description	Driver 904		Passenger 271	
			Length(mm)	Angle(°)	Length(mm)	Angle(°)
HH		Head to Header	408			
HW		Head to Windshield	674			
HZ	HZ	Head to Roof	188		180	
NR	NB	Nose to Rim/Nose to Seatback	436		631	
CD	CB	Chest to Dash or Seatback	555		576	
CS		Chest to Steering Wheel	352			
KDL	KBL	Left Knee to Dash or Seatback	172	32.4	239	9.4
KDR	KBR	Right Knee to Dash or Seatback	186	34.9	231	19.8
PA	PA	Pelvic Angle		23.1		23.2
PHX	PHX	H-Point to Striker (X-Axis)	161		241	
PHZ	PHZ	H-Point to Striker (Z-Axis)	92		238	

DATA SHEET NO. 10

SID/HIII LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04



FRONT VIEW OF DUMMY

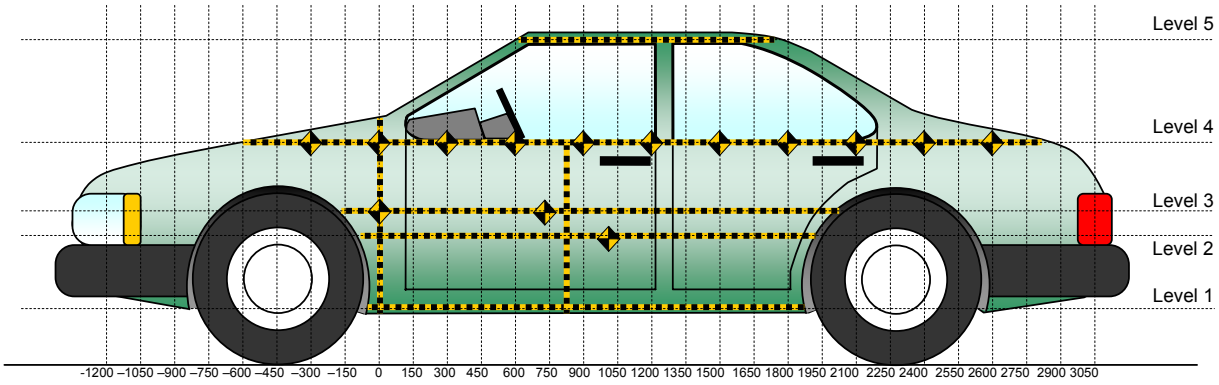
Code	Measurement Description	Units	Driver S/N 904	Passenger S/N 271
HR	Head to Side Header	mm	191	154
HS	Head to Side Window	mm	316	302
AD	Arm to Door	mm	97	72
HD	H-Point to Door	mm	130	118

DATA SHEET NO. 11

VEHICLE SIDE MEASUREMENTS

Test Vehicle: 2005 Chevrolet Equinox
Test Program: NCAP Side Impact

NHTSA No. M50101
Test Date: 04/22/04



All Measurements Shown in mm

LEFT SIDE VIEW

Measurements are taken with vehicle in the as tested condition.
Measurements along the vertical 800 mm.
All measurements below in mm.

Level	Measurement Description	Height Above Ground
5	Window	1554
4	Window Sill	1011
3	Mid Door	708
2	Occupant H-Point	635
1	Sill Top	352

DATA SHEET NO. 12

VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04

	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-900															
-750				302					302					0	
-600				290					298					8	
-450				281					294					13	
-300				277					293					16	
-150			198	270				277	292				79	22	
0	243	219	220	266		342	330	345	299		99	111	125	33	
150	284	219	223	264		407	421	421	332		123	202	198	68	
300	294	213	220	261		445	480	469	393		151	267	249	132	
450	294	210	217	258		471	499	487	428		177	289	270	170	
600	293	208	215	256	485	484	508	501	426	497	191	300	286	170	12
750	291	205	212	254	477	495	512	511	428	494	204	307	299	174	17
900	290	204	210	252	473	509	513	519	430	495	219	309	309	178	22
1050	291	201	210	254	471	528	510	527	433	499	237	309	317	179	28
1200	293	201	210	253	469	540	519	539	453	501	247	318	329	200	32
1350	293	203	211	255	467	537	526	546	452	498	244	323	335	197	31
1500	293	205	213	256	465	536	532	554	454	498	243	327	341	198	33
1650	293	208	216	256	464	535	537	555	465	496	242	329	339	209	32
1800	272	212	219	257	464	533	534	543	413	479	261	322	324	156	15
1950		200	210	260	464		429	443	368	482		229	233	108	18
2100			183	261	464			321	334	485			138	73	21
2250				265	465				349	482				84	17
2400				270	468				339	477				69	9
2550				279	476				334	482				55	6
2700				290					334					44	
2850				306					327					21	
3000															

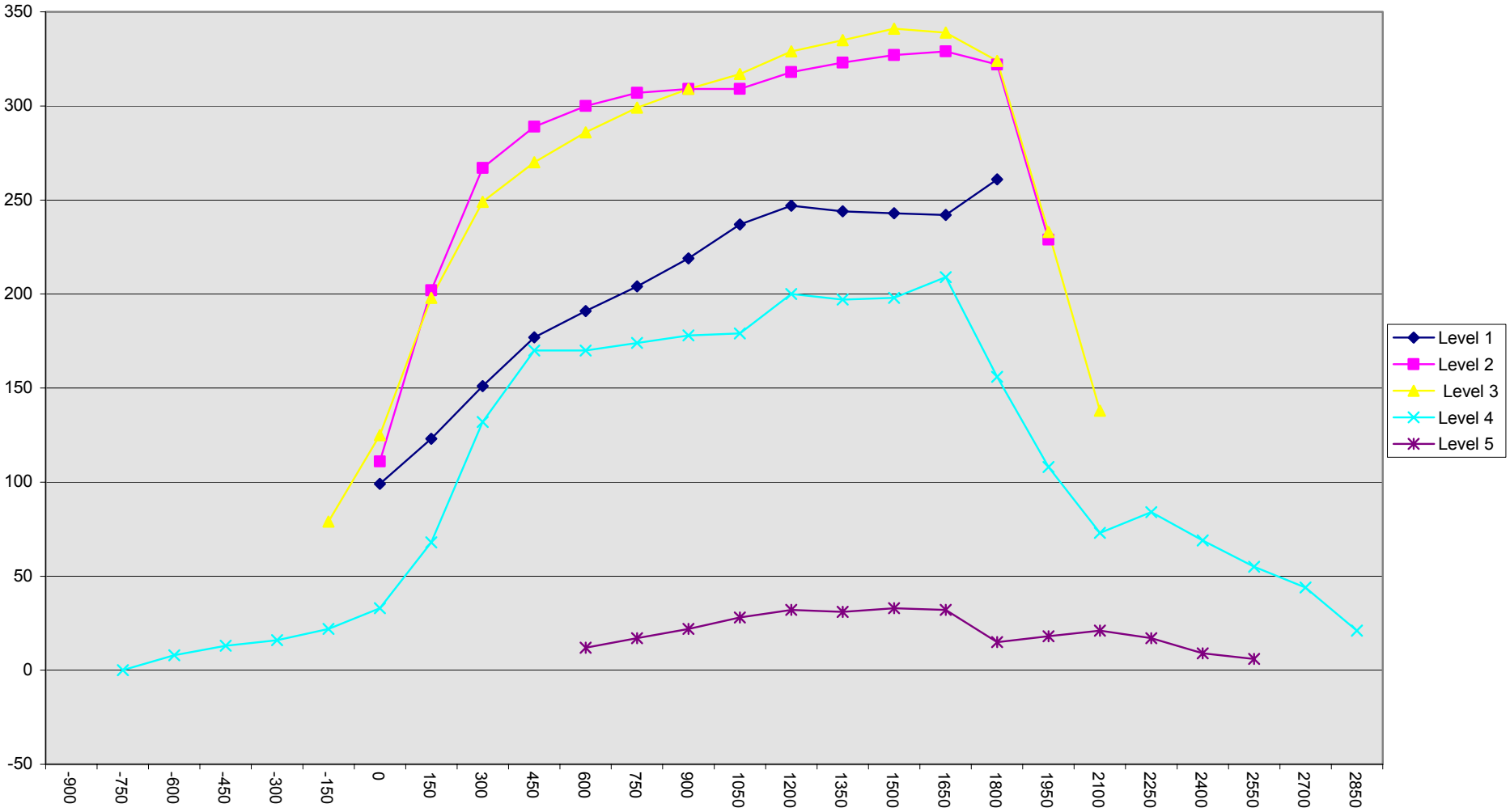
Reference plane is parallel to test vehicle longitudinal centerline.

Given dimensions = Reference plane to car body

DATA SHEET NO. 12...(continued)

VEHICLE EXTERIOR CRUSH PROFILES

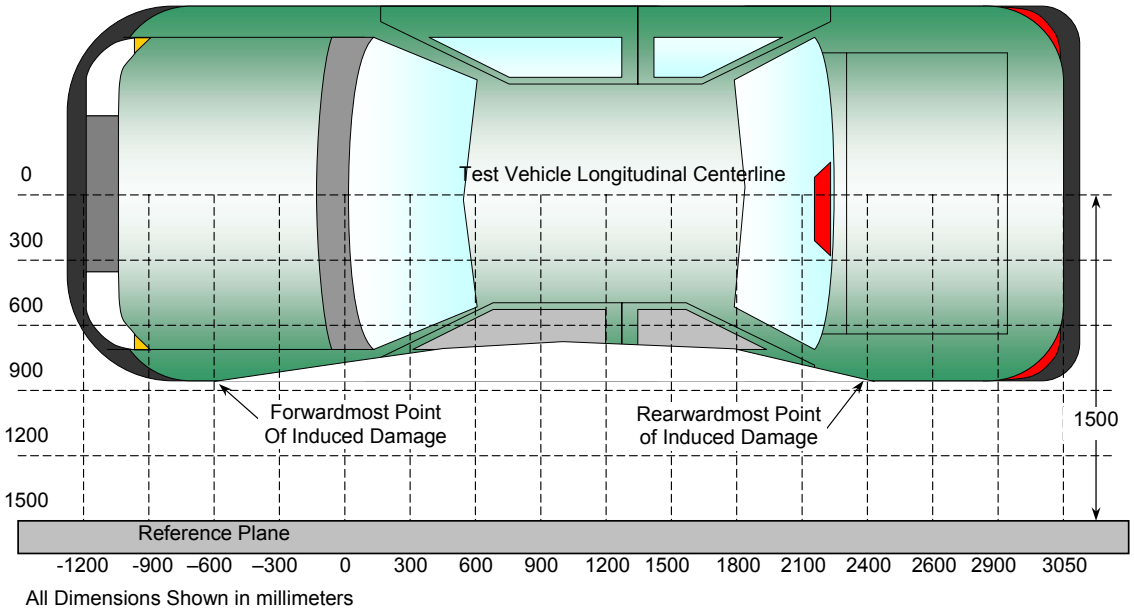
Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04



DATA SHEET NO. 13

VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04



TOP VIEW

DAMAGE PROFILE DISTANCES

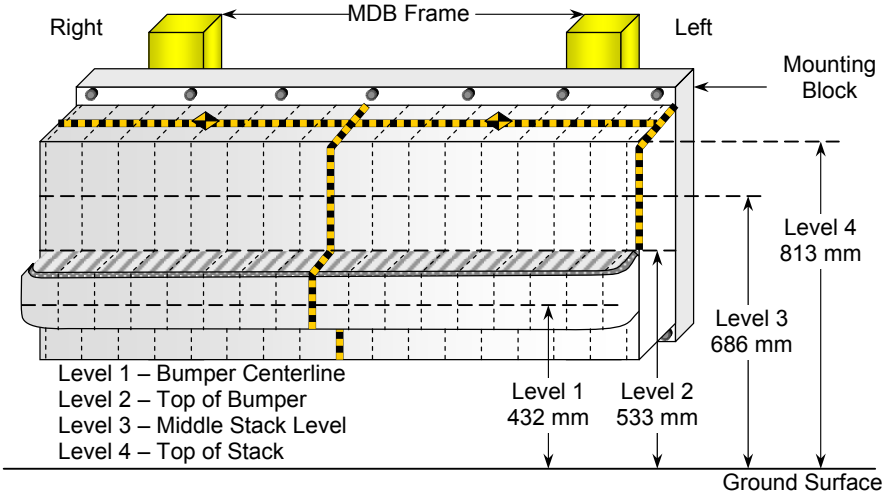
DPD	Distance from Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max Static Crush (mm)
1	2850 mm	4	306	327	21
2	2120 mm	4	263	333	70
3	1366 mm	3	211	546	335
4	662 mm	2	207	510	303
5	-15 mm	3	217	339	122
6	-750 mm	4	302	302	0

Reference plane is parallel to test vehicle longitudinal centerline.
Given dimensions = Reference plane to car body.

DATA SHEET NO. 14

DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH

Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04



DEFORMABLE BARRIER STATIC CRUSH

Stack Level	Distance Right of Center								C_L	Distance Left of Center							
	800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
1	127	112	101	96	97	103	108	105	107	111	113	117	121	126	131	145	166
2	85	79	61	57	55	55	55	52	53	53	54	57	57	58	60	69	80
3	49	31	19	12	12	15	19	16	19	19	17	19	23	33	46	67	104
4	56	36	23	23	14	15	30	31	17	23	28	32	38	48	56	91	140

All Dimensions in mm

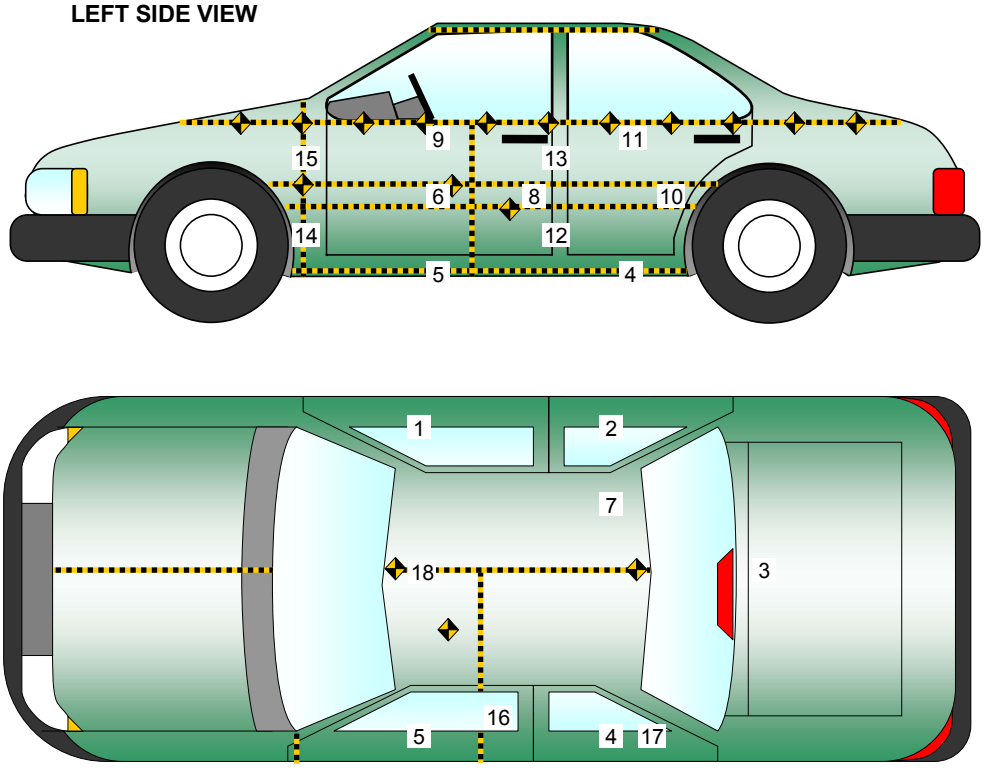
DATA SHEET NO. 15

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Test Vehicle: 2005 Chevrolet Equinox
Test Program: NCAP Side Impact

NHTSA No. M50101
Test Date: 04/22/04

LEFT SIDE VIEW



No.	Location
1	Right Sill at Front Seat
2	Right Sill at Rear Seat
3	Rear Floorpan Above Axle
4	Left Sill at Rear Door
5	Left Sill at Front Door
6	Left Front Door Centerline
7	Right Rear Occupant Compartment
8	Left Front Door Mid-Rear
9	Left Front Door Upper Centerline

No.	Location
10	Left Rear Door Mid-Rear
11	Left Rear Door Upper Centerline
12	Left Lower B-Post
13	Left Middle B-Post
14	Left Lower A-Post
15	Left Middle A-Post
16	Front Seat Track
17	Rear Seat Track or Structure
18	Vehicle CG

DATA SHEET NO. 15...(continued)

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04

VEHICLE ACCELEROMETER PEAK DATA AND PRE-TEST LOCATIONS

Loc. No.	Accelerometer Location	Measurements (mm)			Peak Values (G's)				
		X	Y	Z	Axis	Max	Time	Min	Time
1	Right Sill at Front Seat	2733	673	318	X	2.5	57	-5.7	13
					Y	23.1	11	-3.3	89
					Z	4.8	66	-9.3	14
					RES	24.2	11		
2	Right Sill at Rear Seat	1484	717	306	X	3.4	58	-5.8	13
					Y	30.2	8	-9.8	63
					Z	5.4	97	-7.3	19
					RES	30.5	8		
3	Rear Floorpan Above Axle	910	0	460	X	4.4	19	-4.6	38
					Y	20.5	37	-2.2	96
					Z	25.2	40	-13.1	61
					RES	30.7	40		
4	Left Sill at Rear Door	1480	-717	290	Y	156.1	12	-59.6	18
5	Left Sill at Front Door	2718	-673	312	Y	64.4	9	-15.4	36
6	Left Front Door C/L				Y				
7	Rear Occupant Compartment	1650	396	520	Y	58.9	30	-12.3	36
8	Left Front Door Mid-Rear				Y				
9	Left Front Door Upper C/L				Y				
10	Left Rear Door Mid-Rear				Y				
11	Left Rear Door Upper C/L				Y				
12	Left Lower B-Post	2175	-667	696	Y	174.2	4	-27.2	10
13	Left Middle B-Post	2195	-667	1114	Y	117.0	5	-24.3	34
14	Left Lower A-Post	3202	-680	675	Y	51.1	3	-21.4	12
15	Left Middle A-Post	3205	-770	875	Y	47.0	9	-13.7	19
16	Front Seat Track	2329	-554	419	Y	89.6	14	-36.0	34
17	Rear Seat Track or Structure	1638	-357	520	Y	73.0	30	-19.2	40
18	Vehicle CG	2645	0	460	X	4.9	64	-8.3	35
					Y	22.9	10	-2.6	89
					Z	10.1	22	-8.5	33
					RES	23.8	10		

The door accelerometers were not mounted as per the request of manufacturer.

See reference points on the following page.

DATA SHEET NO. 15...(continued)

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle:	2005 Chevrolet Equinox	NHTSA No.	M50101
Test Program:	NCAP Side Impact	Test Date:	04/22/04

Reference Points X - Test Vehicle Rear Bumper (+ forward)
Y - Test Vehicle Centerline (+ to right)
Z - Ground Plane (+ down)

DATA SHEET NO. 16

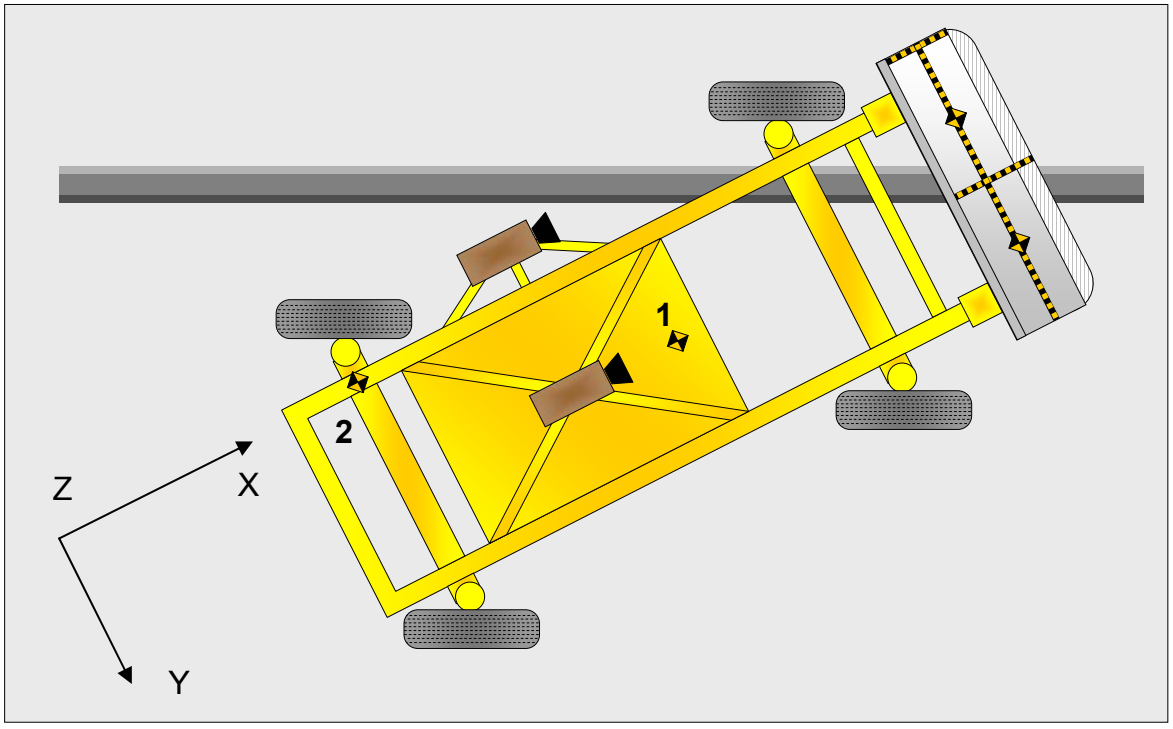
MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY

Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04

MDB ACCELEROMETER PEAK DATA AND LOCATIONS

Loc. No.	Accelerometer Location	Measurement (mm)			Peak Values (G's)				
		X	Y	Z	Axis	Max	Time	Min	Time
1	MDB CG	-1092	0	-483	X	1.2	115	-19.1	43
					Y	2.7	61	-6.6	39
					Z	19.2	77	-18.1	83
					RES	23.9	43		
2	MDB Rear	-2591	-625	-622	X	1.9	137	-21.6	33
					Y	4.2	41	-2.1	61
					Z	4.4	22	-3.9	81
					RES	22.1	42		

Reference Points X - MDB Front Axle (+ forward)
Y - MDB Centerline (+ to right)
Z - Ground Plane (+ down)



DATA SHEET NO. 17

VEHICLE STRUCTURAL MEASUREMENTS

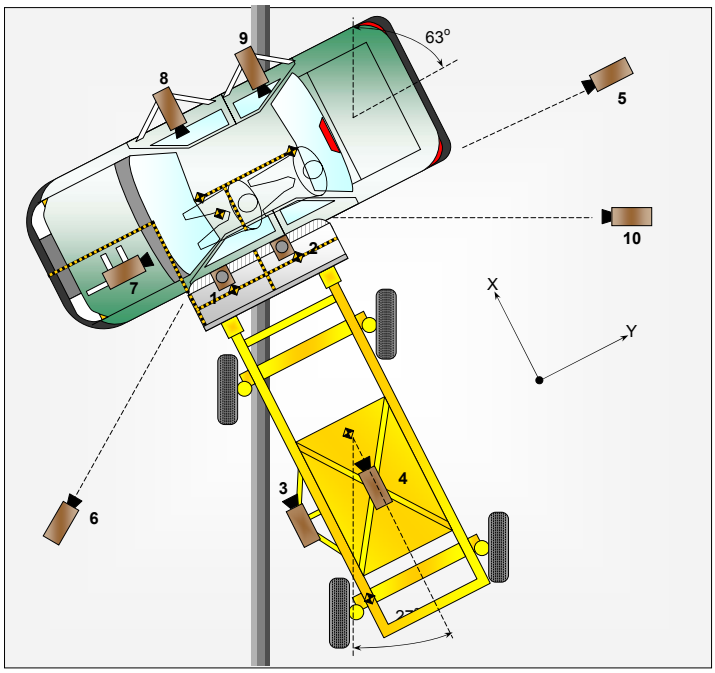
Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04

	Elements	Pre-Test (mm)
1	Total Length	4750
2	Total Width	1805
3	Bumper Top Height	635
4	Bumper Bottom Height	402
5	Longitudinal Member Top Height	305
6	Distance between Longitudinal Members	875
7	Longitudinal Member Width	92
8	Engine Top Height	910
9	Engine Bottom Height	205
10	Engine and gearbox width	830
11	Front bumper-engine distance	585
12	Front shock absorber fixing height	1020
13	Bonnet leading edge height	915
14	Front shock absorber fixing width	1180
15	Front bumper – front axle distance	988
16	Front axle – a pillar distance	412
17	A-pillar – B-pillar distance	990
18	B-Pillar – rear axle distance	1265
19	B-pillar – C-pillar distance	1007
20	Roof sill bottom height	1553
21	Roof sill top height	1625
22	Floor sill bottom height	266
23	Floor sill top height	382

DATA SHEET NO. 18

HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04



No.	Camera View	Location (mm)			Lens (mm)	Film Speed (fps)
		X	Y	Z		
1	Overhead Overall	0	0	5000	8	1149
2	Overhead Close-up	640	290	5000	13	1111
3	MDB Onboard, Impact Point Close-up				35	1000
4	MDB Onboard, Centerline of Impact				13	1042
5	Right Side, Ground Level, Overall	455	10010	1871	25	1026
6	Left Side, Ground Level, Overall	1280	-5325	1562	13	1015
7	Vehicle Onboard Front SID/HIII, Front				13	508
8	Vehicle Onboard Front SID/HIII, Side				24	521
9	Vehicle Onboard Rear SID/HIII, Side				8	515
10	Real Time Coverage				13	24
11	Front Impact	0	6035	1555	25	1000
12	Rear Impact	1334	10490	1895	25	1000
13	Top Impact	40	290	5700	50	1000

Reference Points X - Impact Line
Y - MDB Left Edge Impact Point
Z - Ground Plane

Cameras 11, 12, and 13 are high speed video cameras.

DATA SHEET NO. 19

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04

Test Time: 12:15 pm Temperature at Time of Impact: 21°C

STODDARD SOLVENT SPILLAGE MEASUREMENTS

A. From impact until vehicle motion ceases: 0 oz.
(Maximum Allowable = 1 ounce)

B. For the 5 minute period after motion ceases: 0 oz.
(Maximum allowable = 5 ounces)

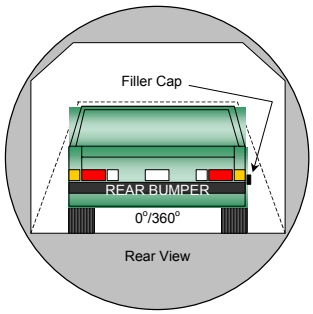
C. For the following 25 minutes: 0 oz.
(Maximum allowable = 1 oz./minute)

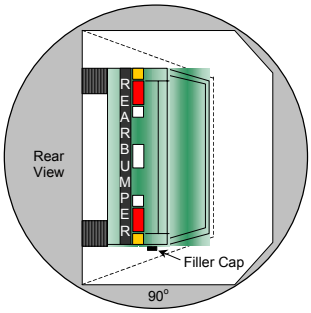
D. Spillage Details: None

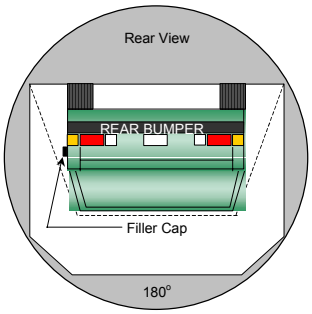
DATA SHEET NO. 20

FMVSS 301 STATIC ROLLOVER DATA SHEET

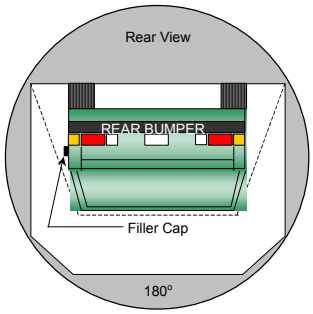
Test Vehicle: 2005 Chevrolet Equinox NHTSA No. M50101
Test Program: NCAP Side Impact Test Date: 04/22/04

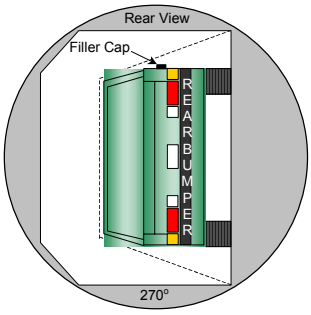


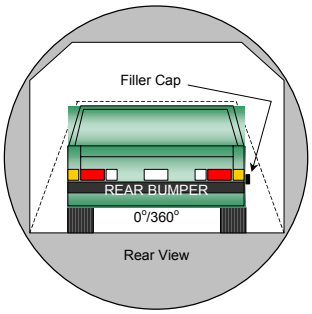




0^O to 90^O 90^O to 180^O







180^O to 270^O 270^O to 360^O

1. The specified fixture rollover rate for each 90^o of rotation is 60 to 180 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. Details of Stoddard Solvent Spillage locations: None

Rollover Test Phase	Rotation Time (sec.)	Hold Time (sec.)	Spillage (oz.)
0° to 90°	169	300	0
90° to 180°	153	300	0
180° to 270°	136	300	0
270° to 360°	165	300	0

APPENDIX A

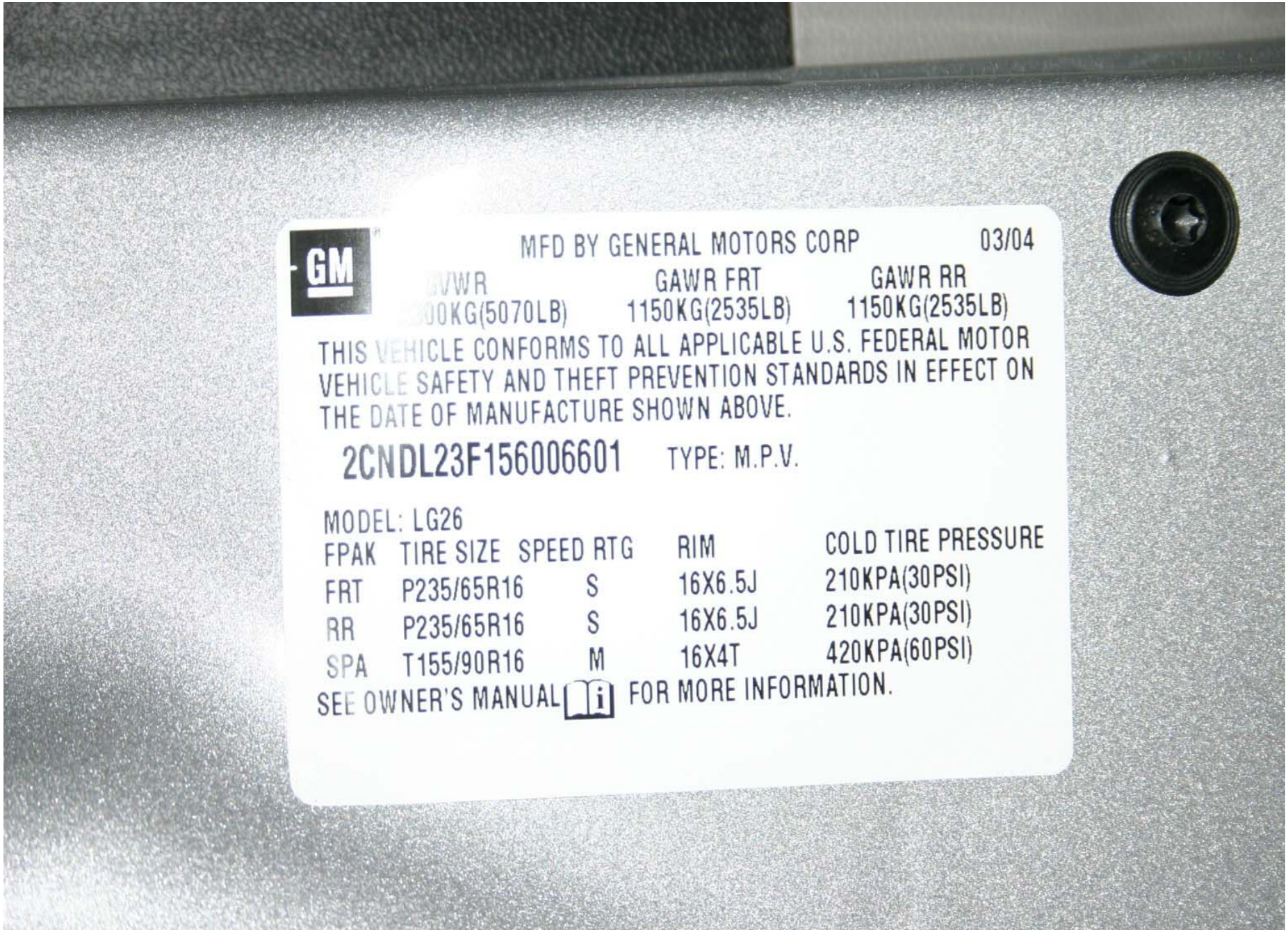
PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

Left Front of Vehicle As Received

A-1.

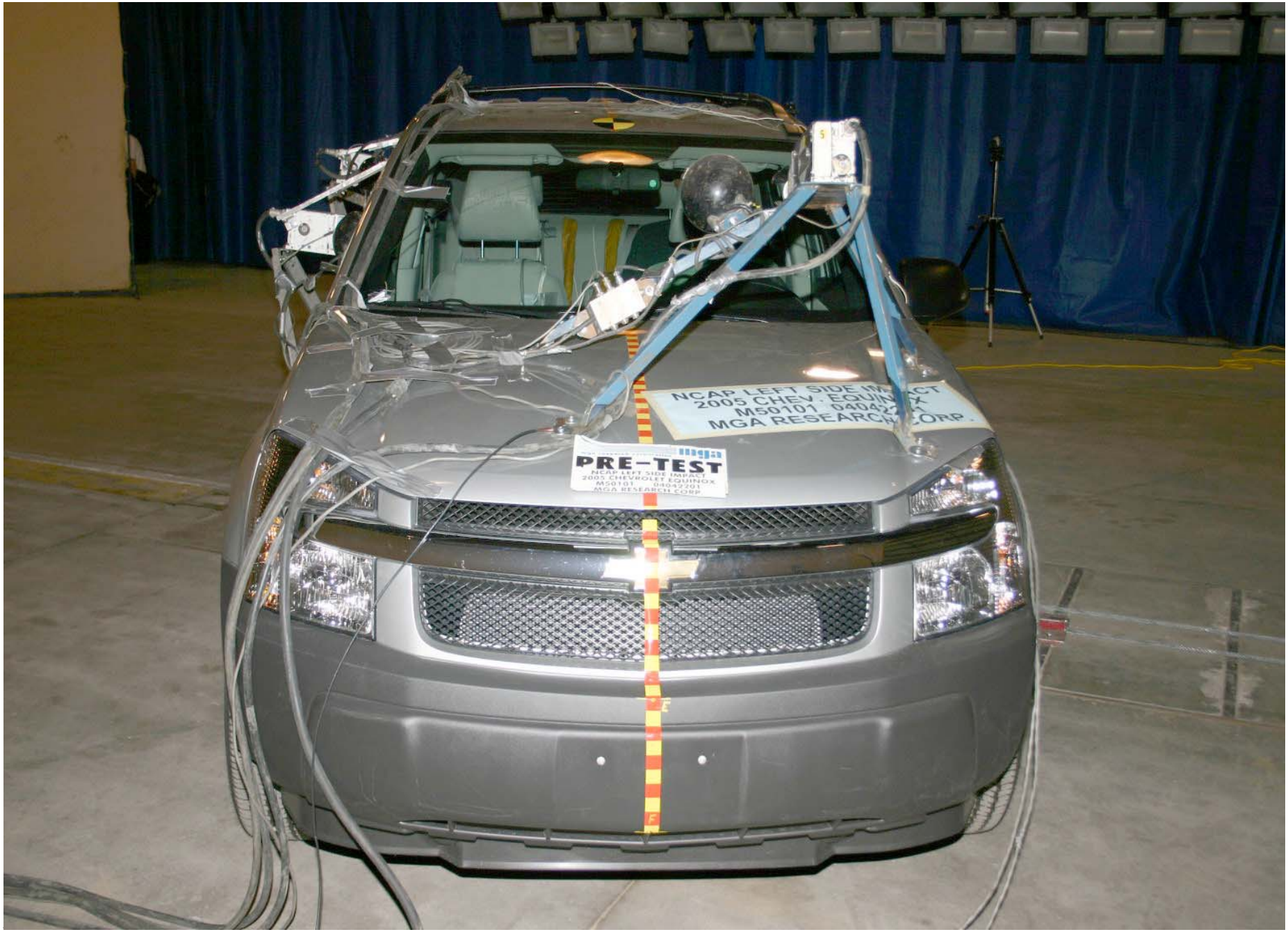
Right Rear of Vehicle As Received



A-3.

Vehicle Certification Label

Tire Placard



Pre-Test Front View of Test Vehicle

Post-Test Front View of Test Vehicle

Pre-Test Left Side View of Test Vehicle

Post-Test Left Side View of Test Vehicle

Pre-Test Right Side View of Test Vehicle

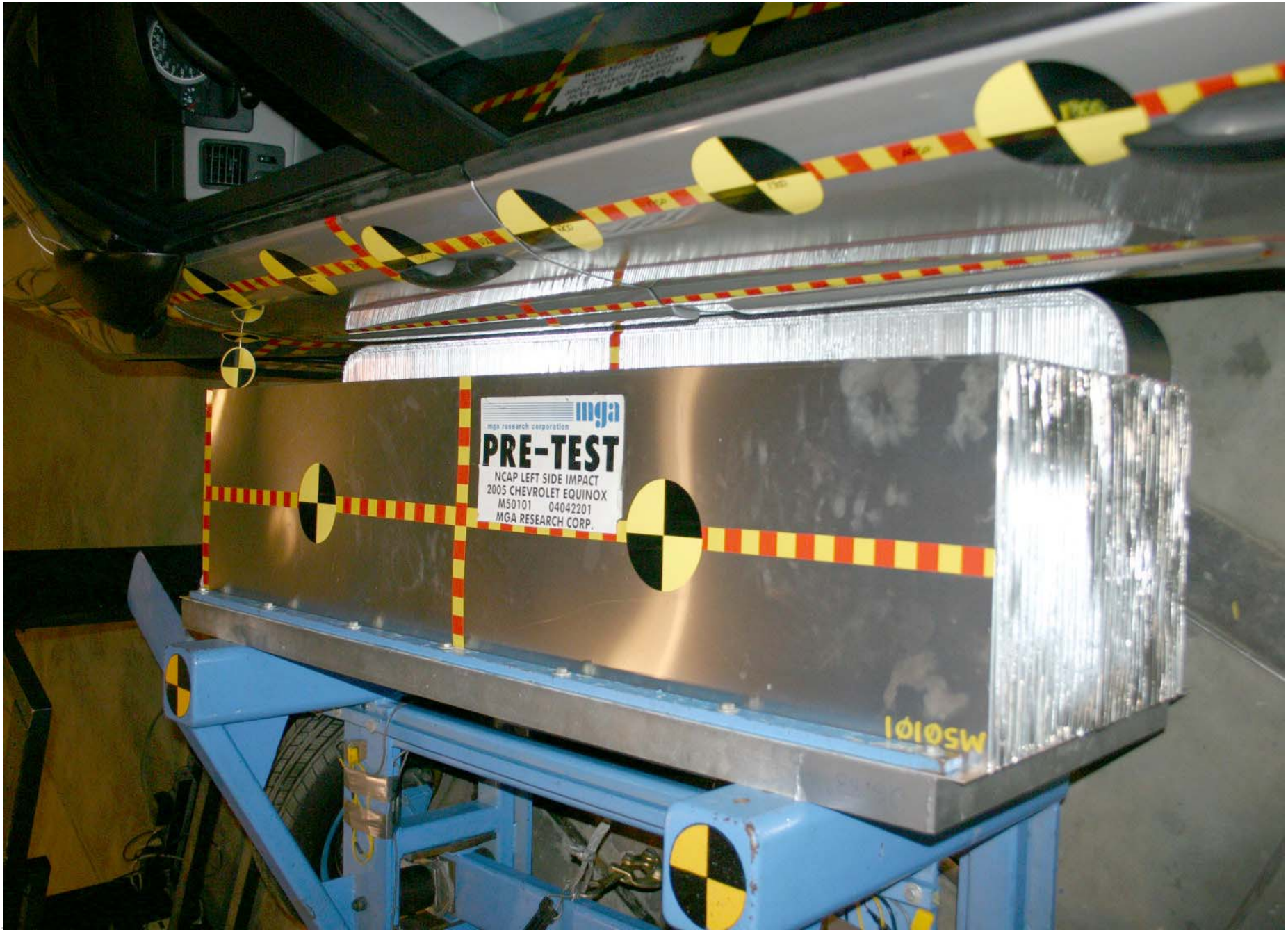
Post-Test Right Side View of Test Vehicle

Pre-Test Rear View of Test Vehicle

Post-Test Rear View of Test Vehicle

Pre-Test MDB (left side) Positioned Against Vehicle

Pre-Test MDB (right side) Positioned Against Vehicle



Pre-Test MDB Positioned Against Vehicle Overhead View

Post-Test MDB and Vehicle (Left Front View)

Post-Test MDB and Vehicle (Left Rear View)

Post-Test Vehicle Overhead View

Pre-Test Impact Point on Vehicle

Post-Test Impact Point on Vehicle

Pre-Test Fuel Filler Cap View

Post-Test Fuel Filler Cap View

Pre-Test Rear ¾ View of Right Front Door of Test Vehicle

Pre-Test Rear ¾ View of Right Rear Door of Test Vehicle

Pre-Test Rear ¾ View of Left Front Door of Test Vehicle

Pre-Test Rear ¾ View of Left Rear Door of Test Vehicle

Post-Test Rear ¾ View of Left Doors of Test Vehicle

Post-Test Rear ¾ View of Right Doors of Test Vehicle

Pre-Test Driver Dummy Left Side View (Door Open)

Pre-Test Driver Dummy Left Side View

Post-Test Driver Dummy Left Side View

Pre-Test Driver Dummy Shoulder and Door Top View

Post-Test Driver Dummy Shoulder and Door Top View

Pre-Test Driver Dummy Right Side View

Post-Test Driver Dummy Right Side View

Post-Test Driver Dummy Head Contact

Post-Test Driver Dummy Contact

Post-Test Driver Dummy Contact

Pre-Test Passenger Dummy Left Side View (Door Open)

Pre-Test Passenger Dummy Left Side View

Post-Test Passenger Dummy Left Side View

Pre-Test Passenger Dummy Shoulder and Door Top View

Post-Test Passenger Dummy Shoulder and Door Top View

Pre-Test Passenger Dummy Right Side View

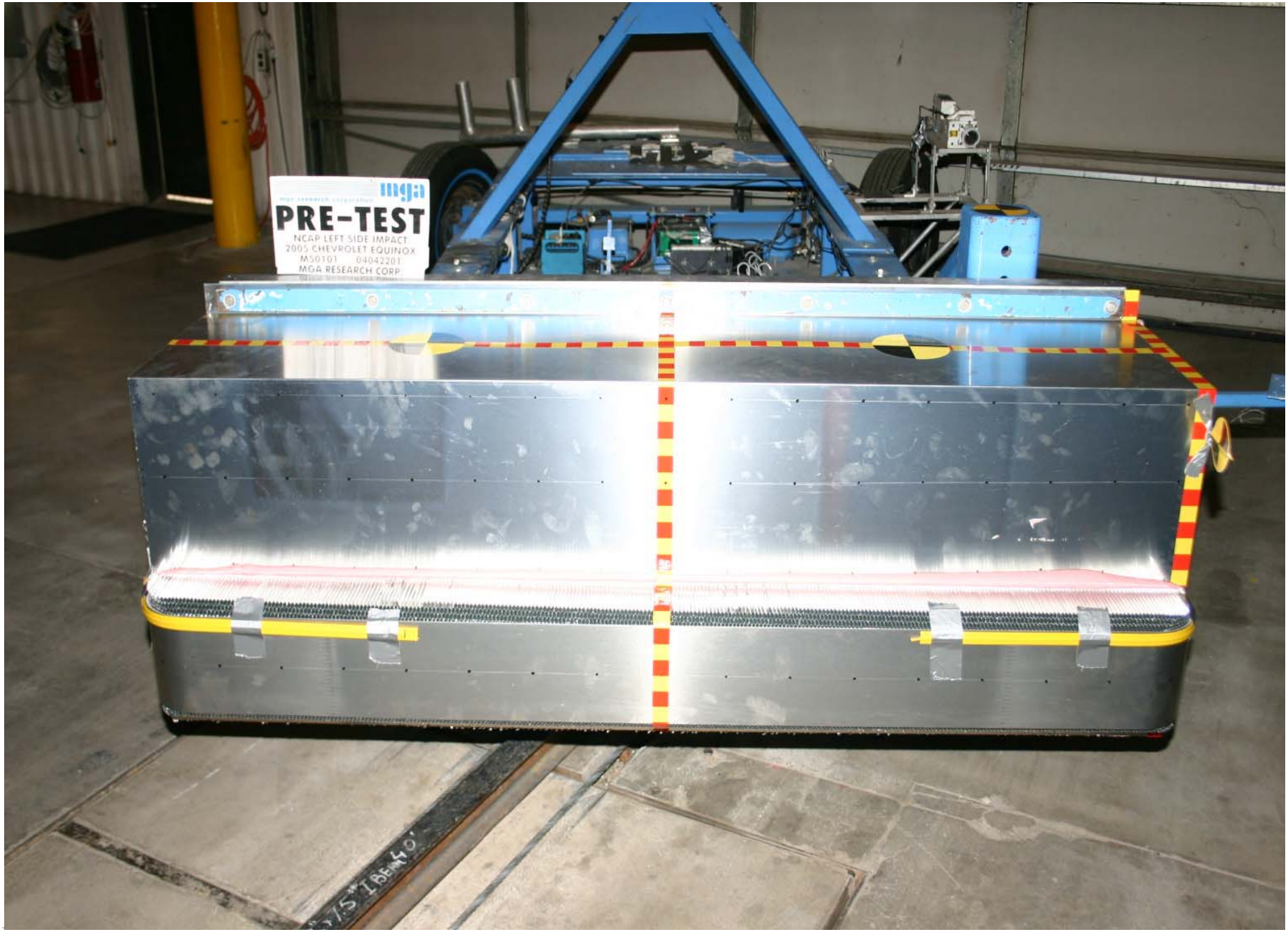
Post-Test Passenger Dummy Right Side View

Post-Test Passenger Dummy Head Contact

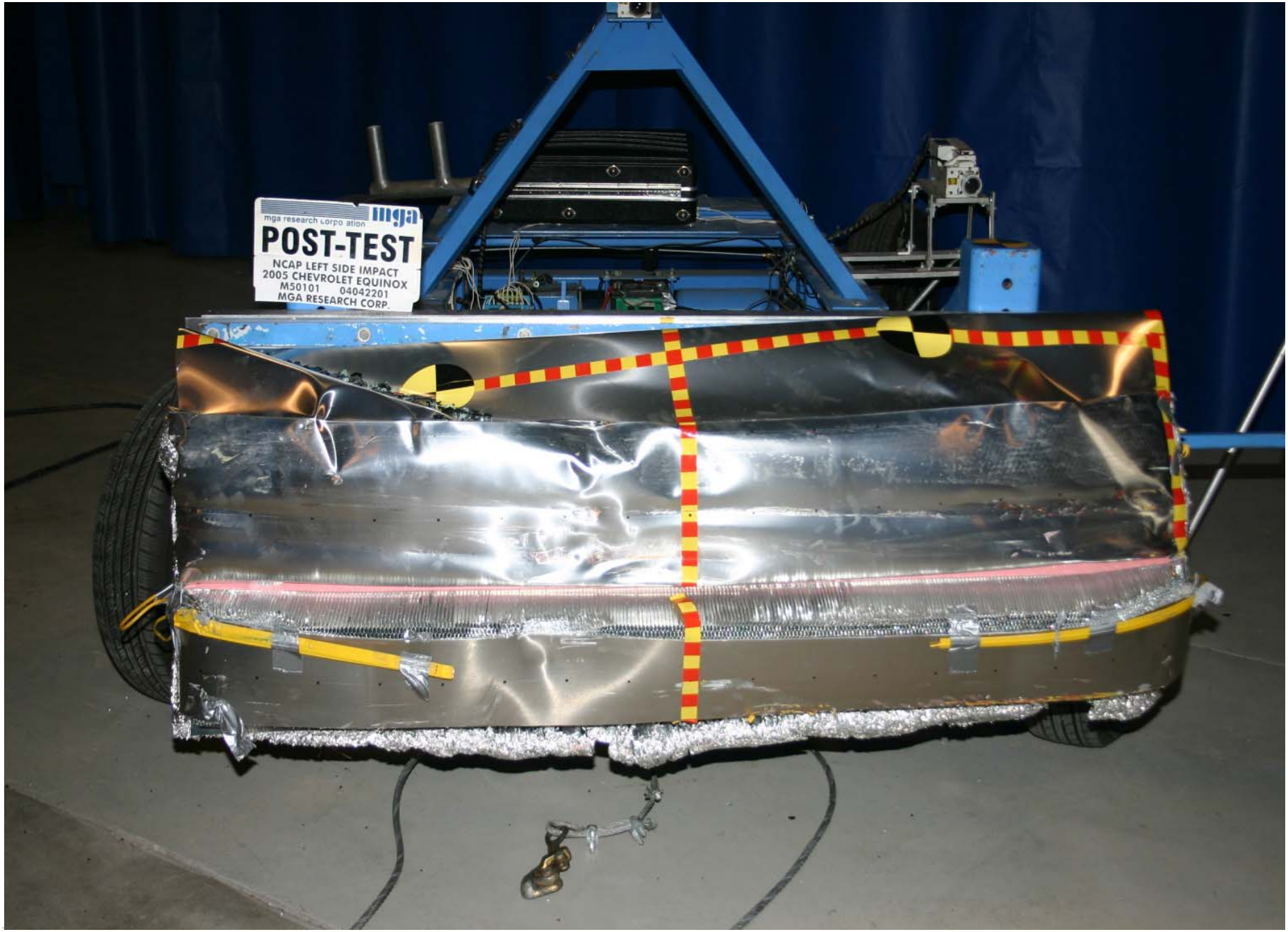
Post-Test Passenger Dummy Contact

Post-Test Passenger Dummy Contact

Post-Test Passenger Dummy Knee Contact



Pre-Test MDB Front View



Post-Test MDB Front View

Pre-Test MDB Top View

Post-Test MDB Top View

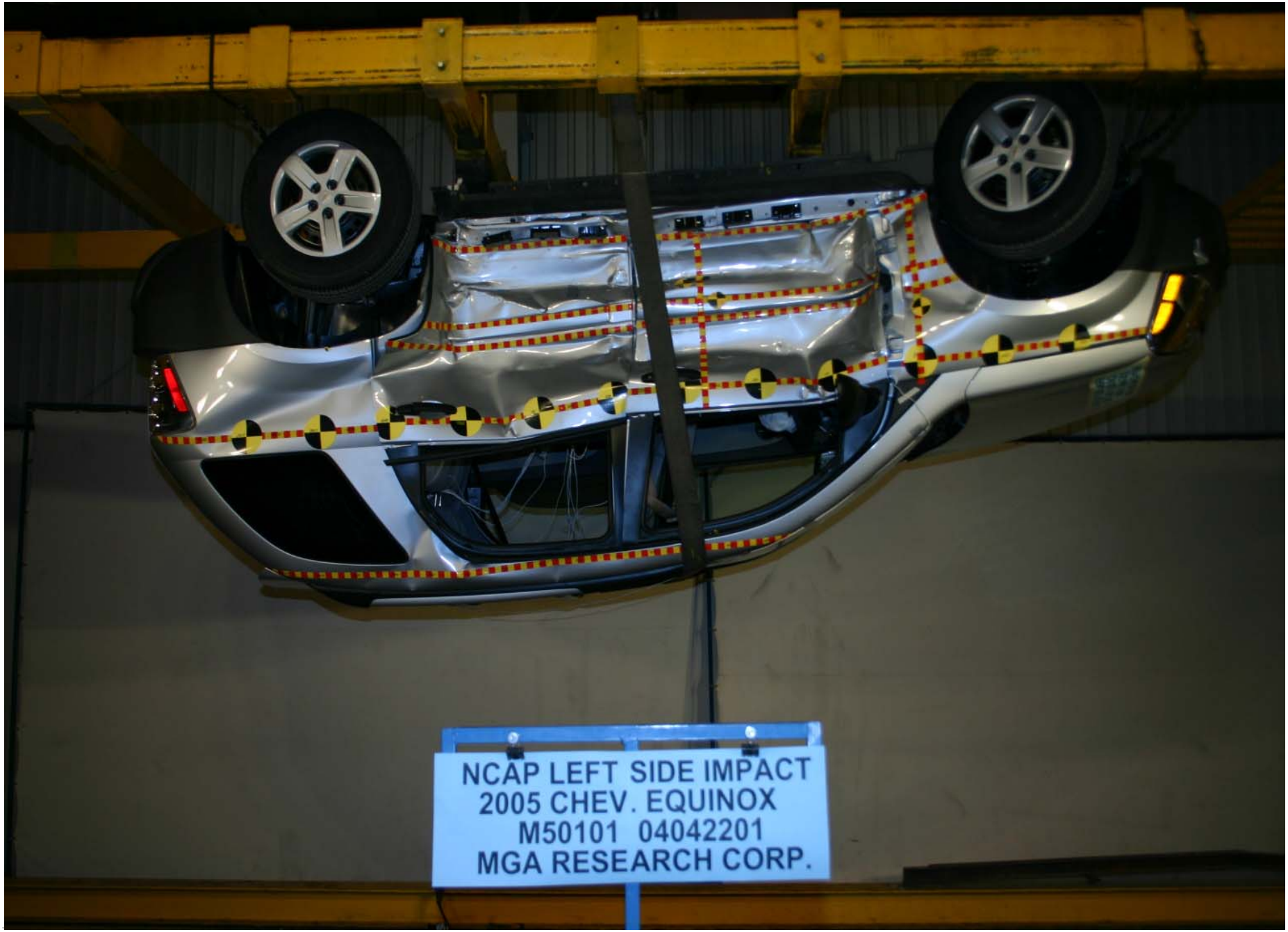
Pre-Test MDB Right Side View

Post-Test MDB Right Side View

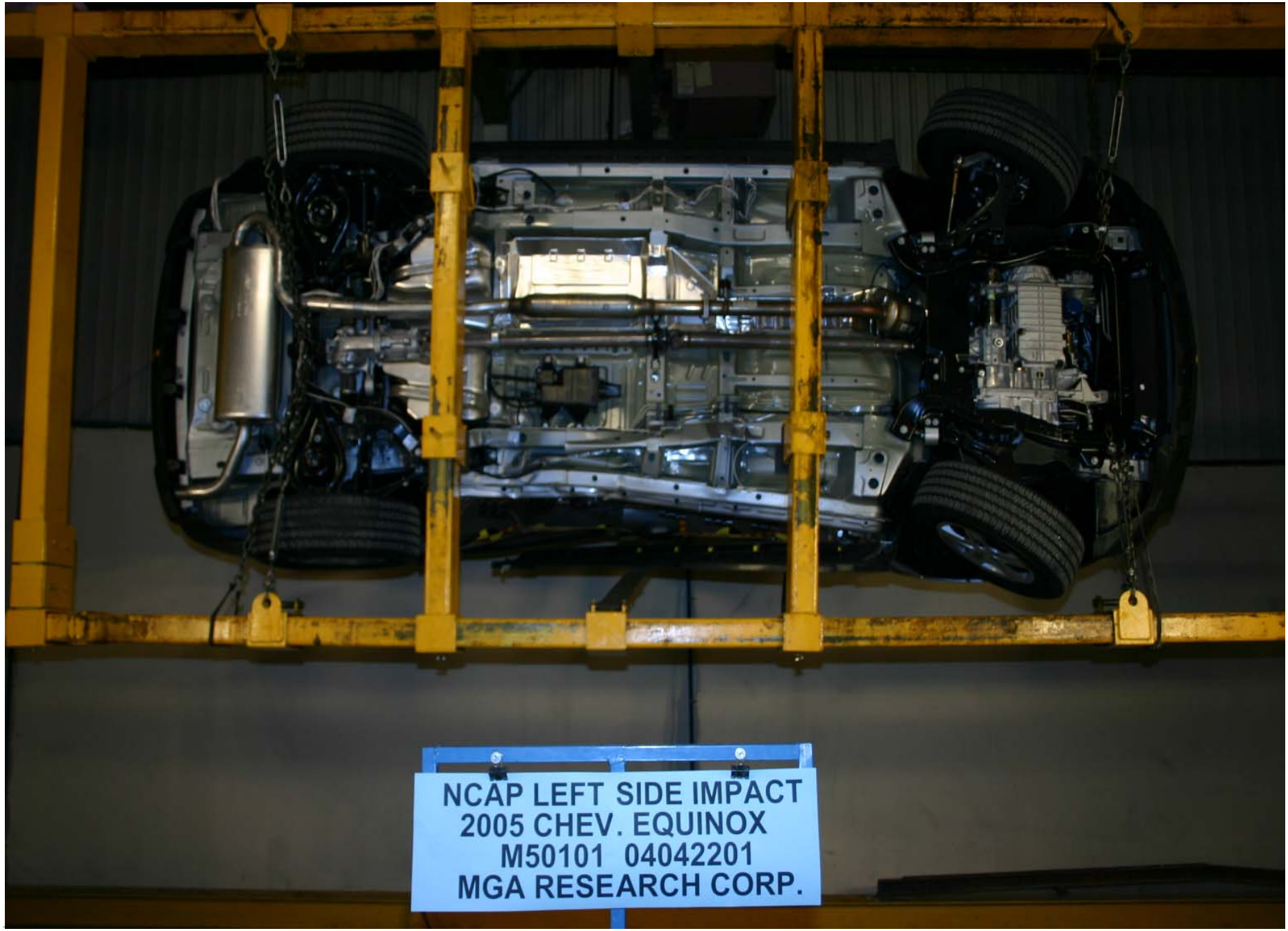
Pre-Test MDB Left Side View

Post-Test MDB Left Side View

Rollover 90 Degrees



Rollover 180 Degrees



Rollover 270 Degrees

Rollover 360 Degrees

Vehicle Impact

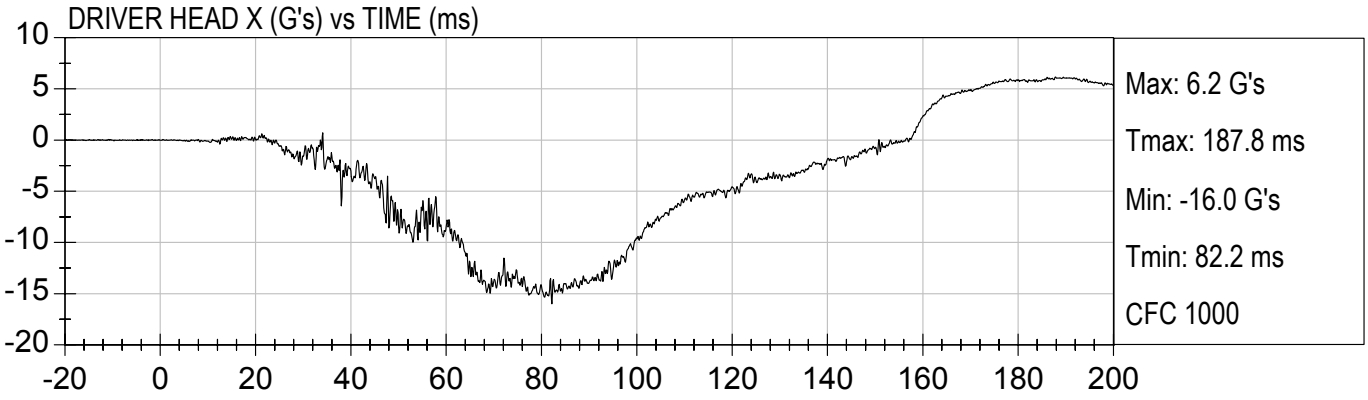
APPENDIX B

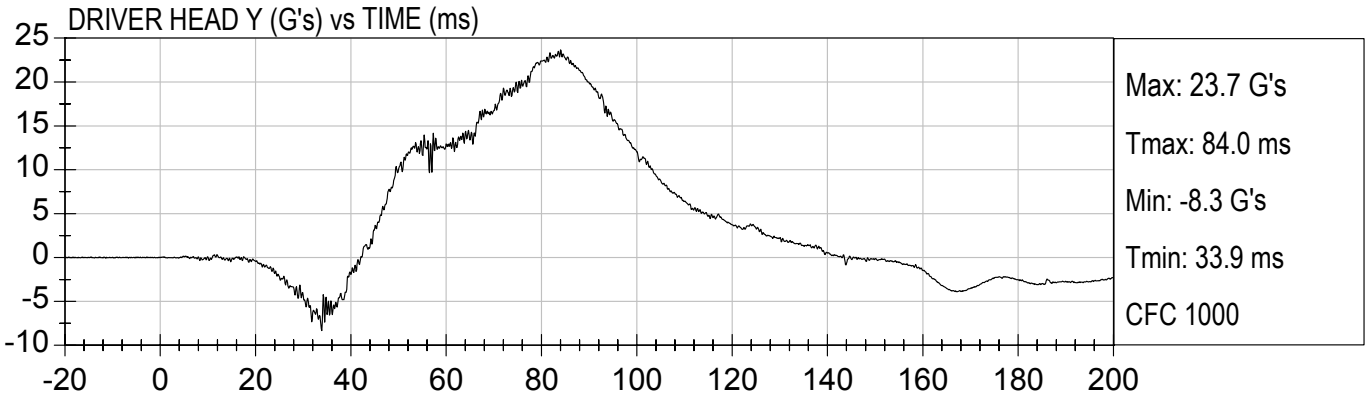
SID/HIII, VEHICLE, AND MDB RESPONSE DATA

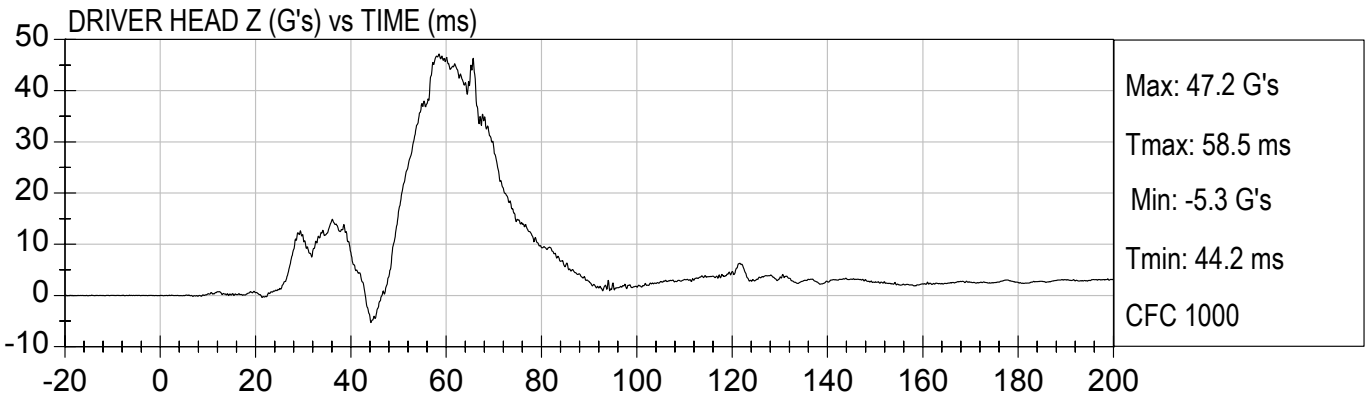
TABLE OF DATA PLOTS

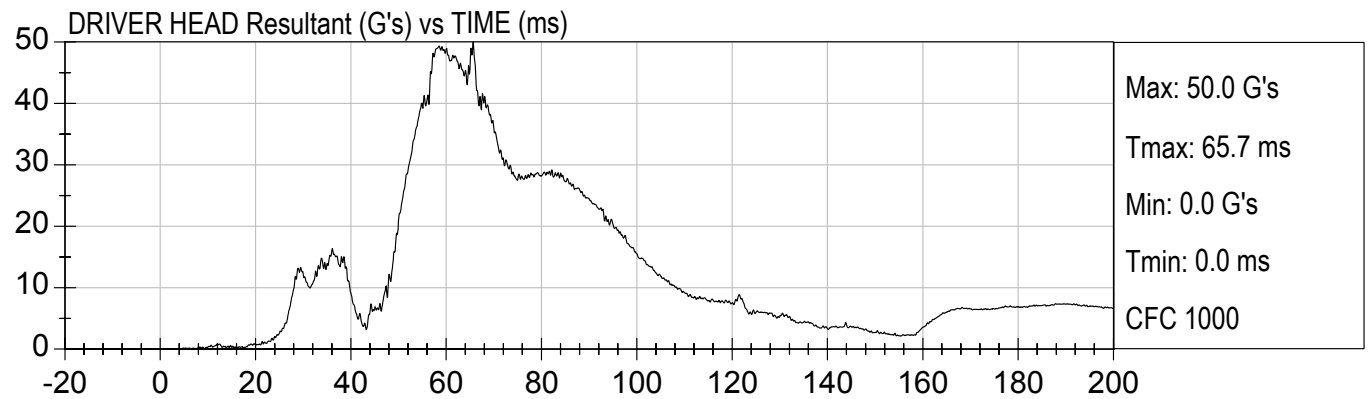
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

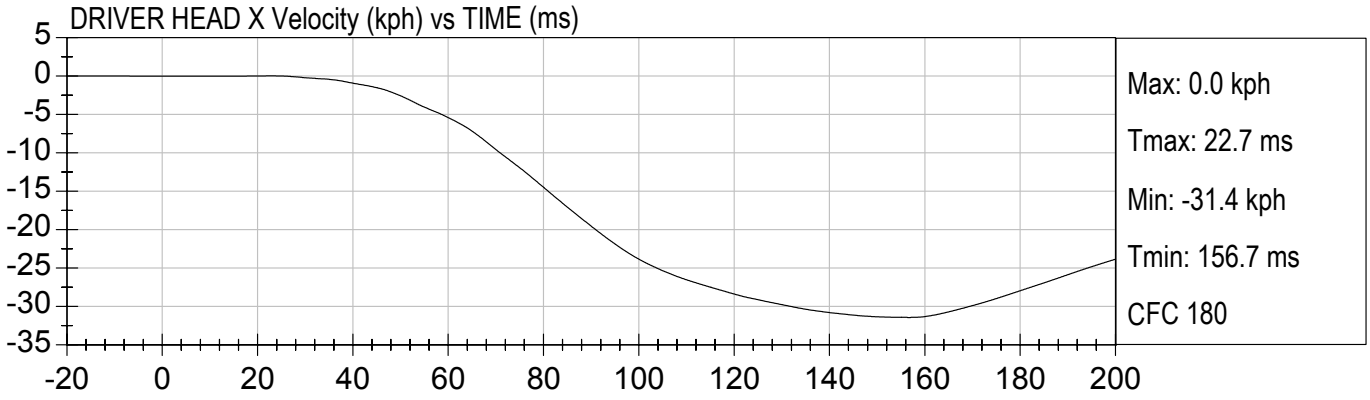
Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)

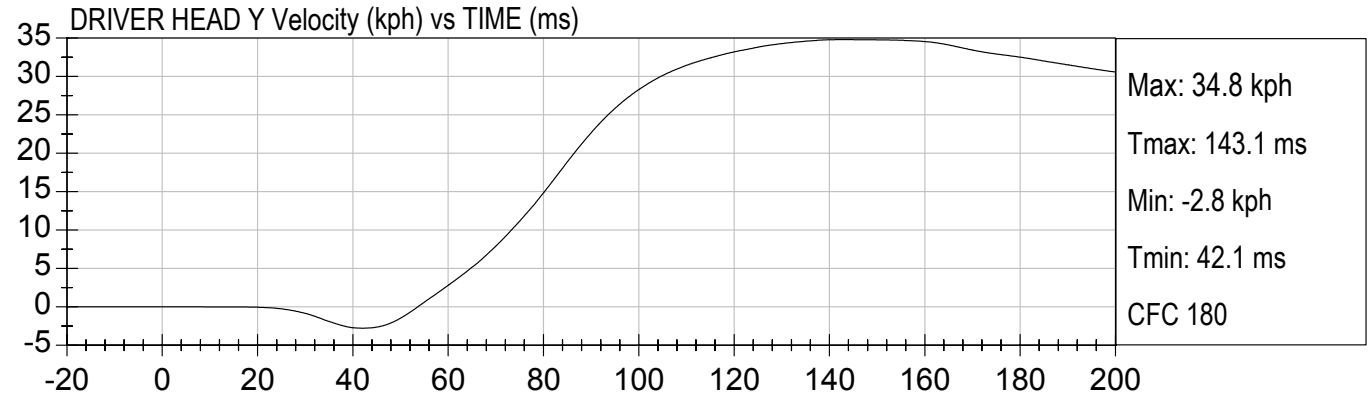


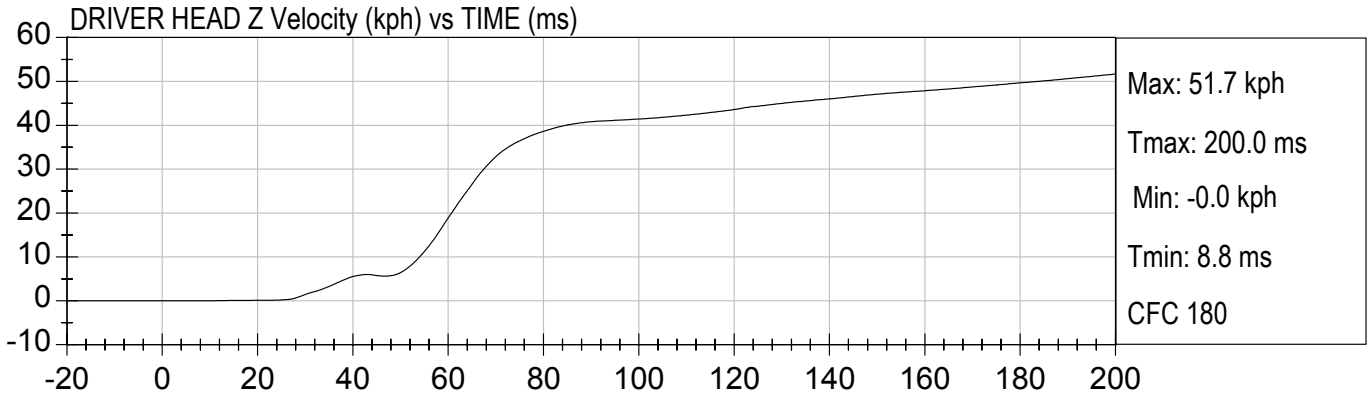






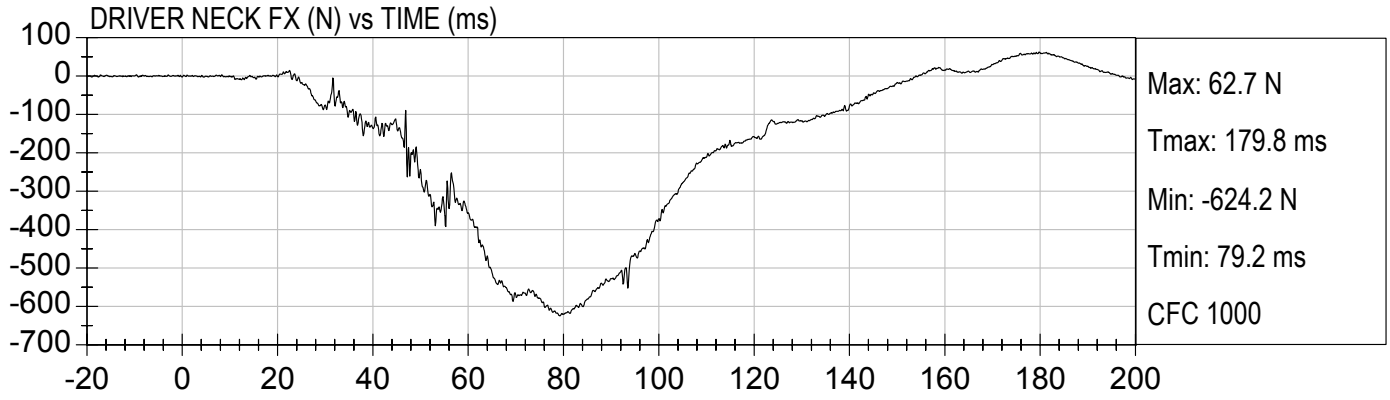

DRIVER HEAD X Velocity (kph) vs TIME (ms)
5
0
-5
-10
-15
-20
-25
-30
-35
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 0.0 kph
Tmax: 22.7 ms
Min: -31.4 kph
Tmin: 156.7 ms
CFC 180

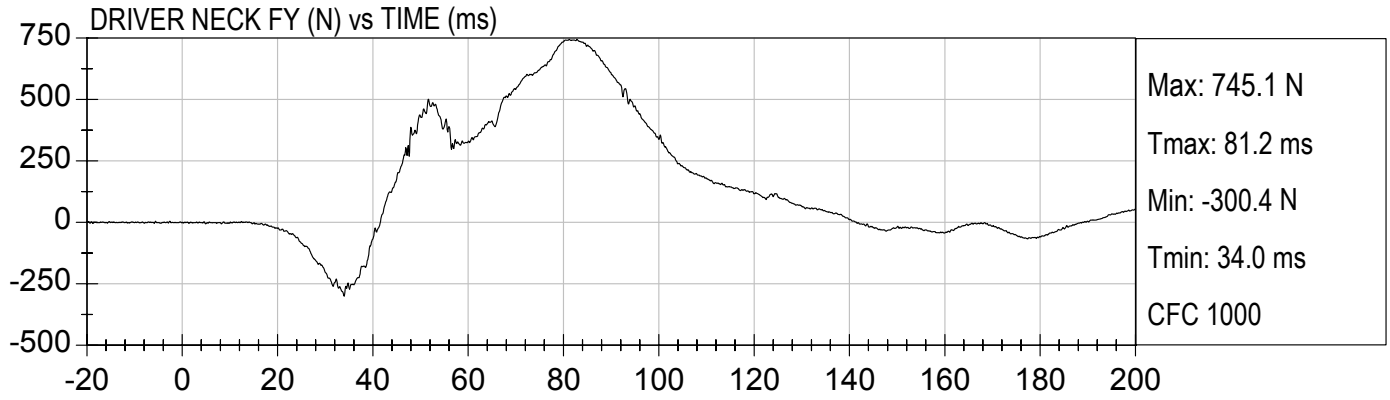

DRIVER HEAD Y Velocity (kph) vs TIME (ms)
35
30
25
20
15
10
5
0
-5
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 34.8 kph
Tmax: 143.1 ms
Min: -2.8 kph
Tmin: 42.1 ms
CFC 180

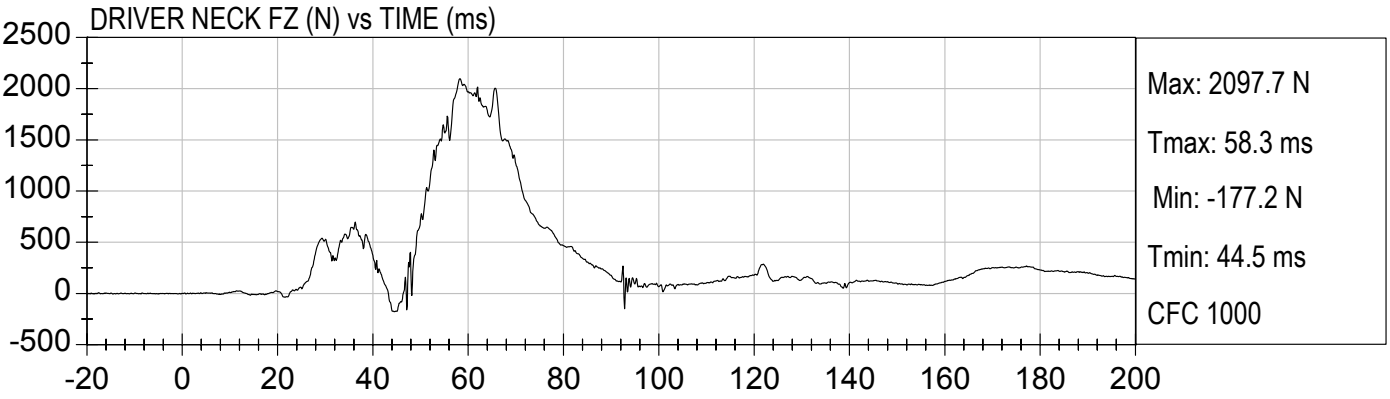

DRIVER HEAD Z Velocity (kph) vs TIME (ms)
60
50
40
30
20
10
0
-10
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 51.7 kph
Tmax: 200.0 ms
Min: -0.0 kph
Tmin: 8.8 ms
CFC 180

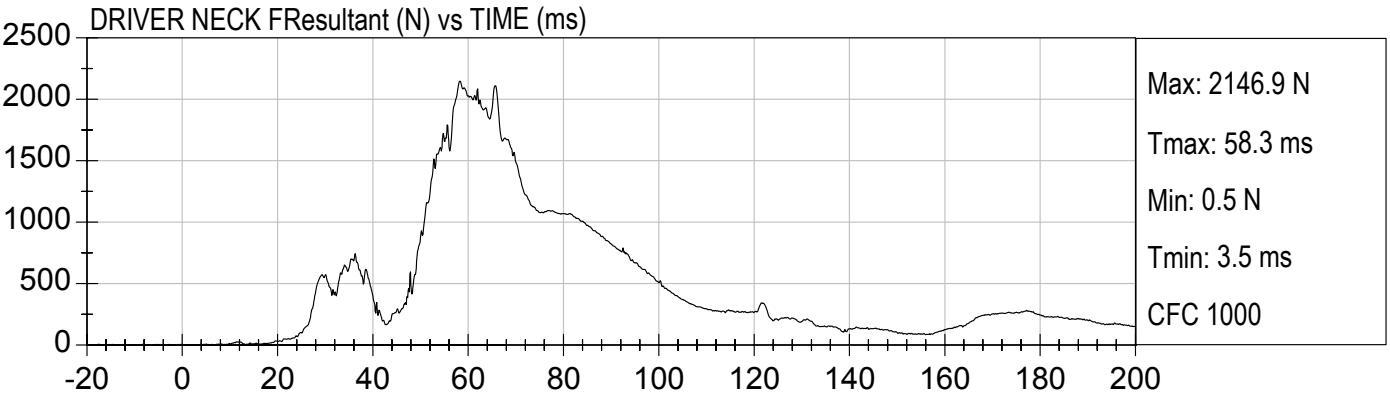
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)



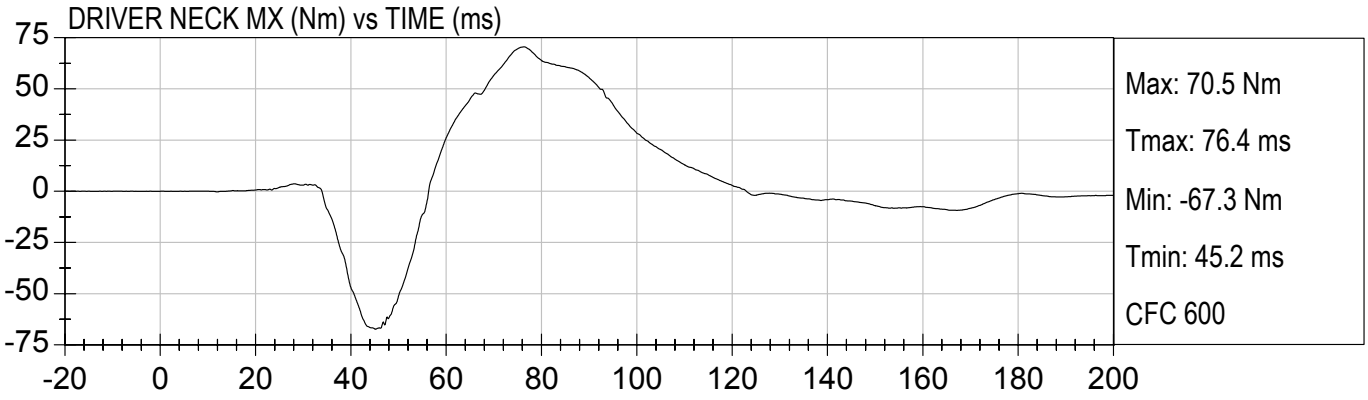


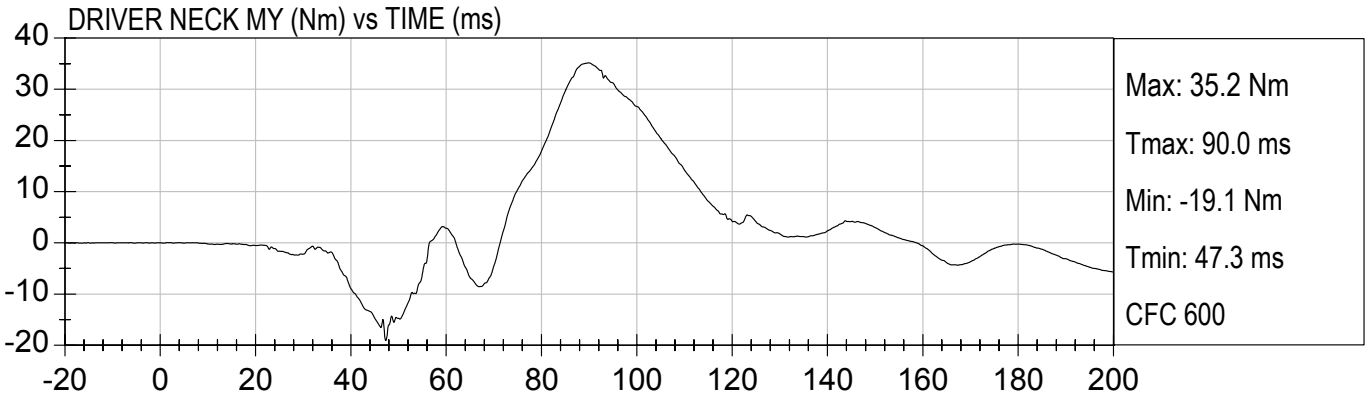


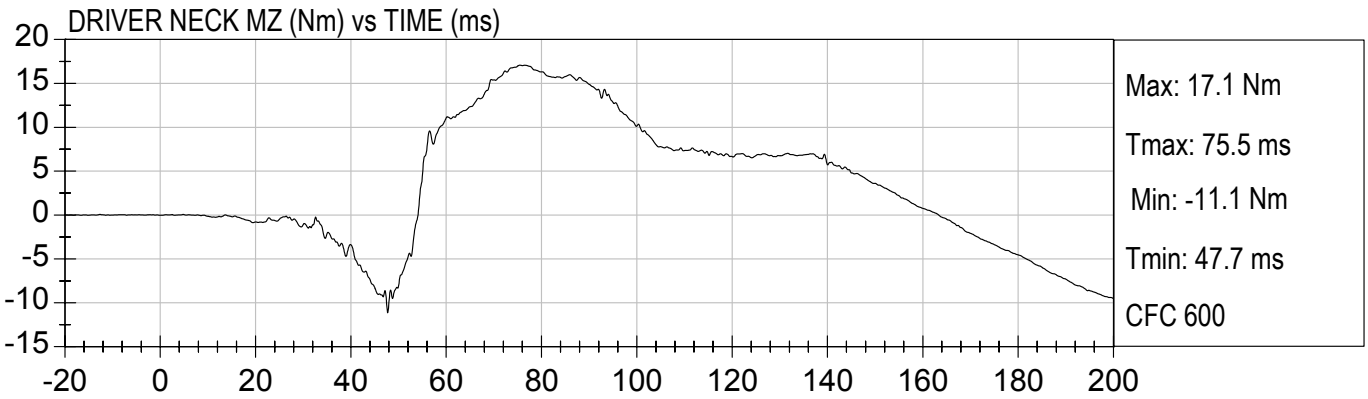


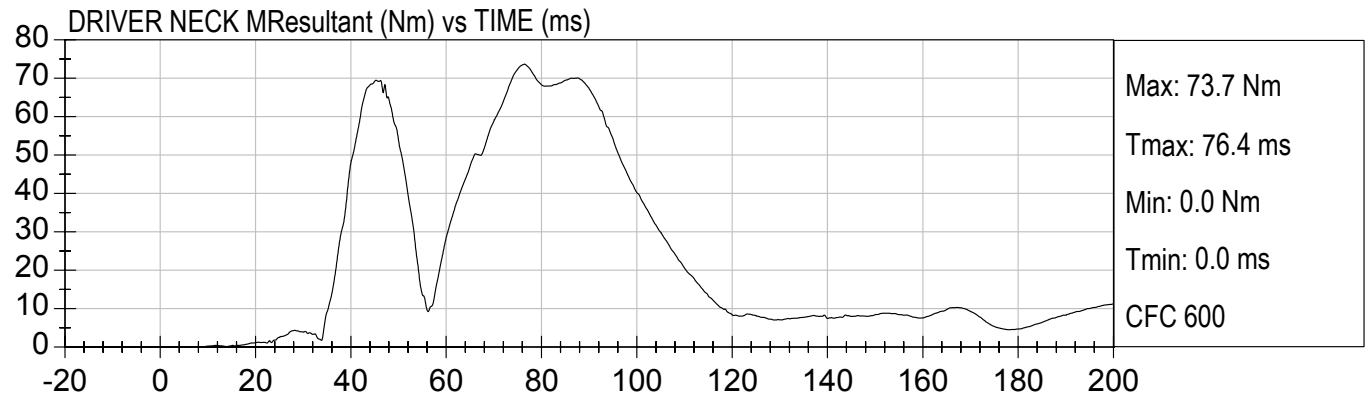
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)



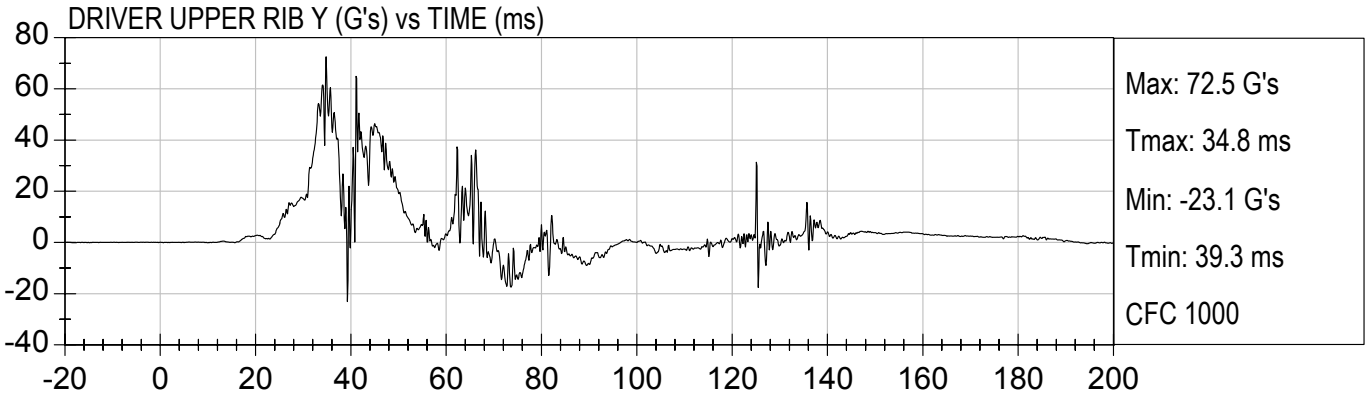


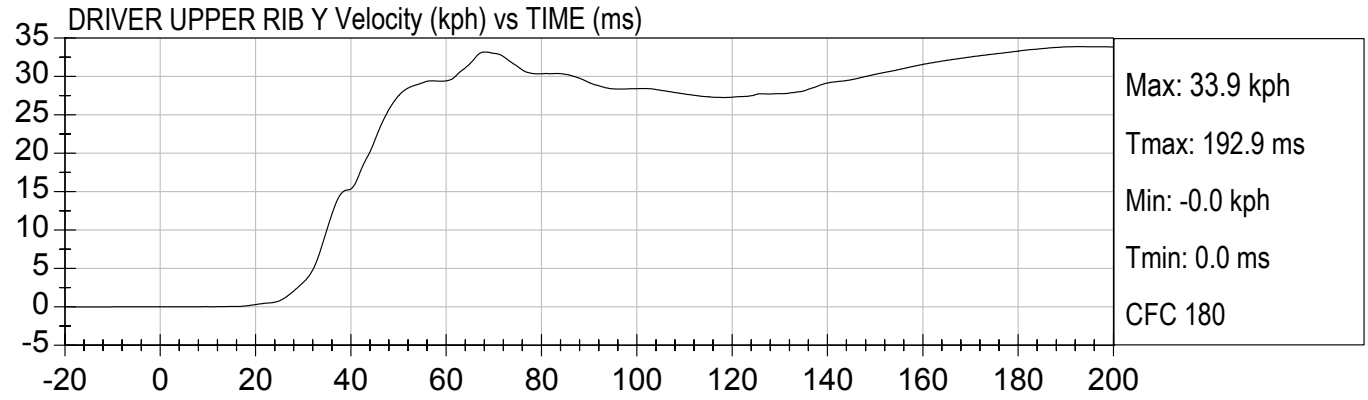


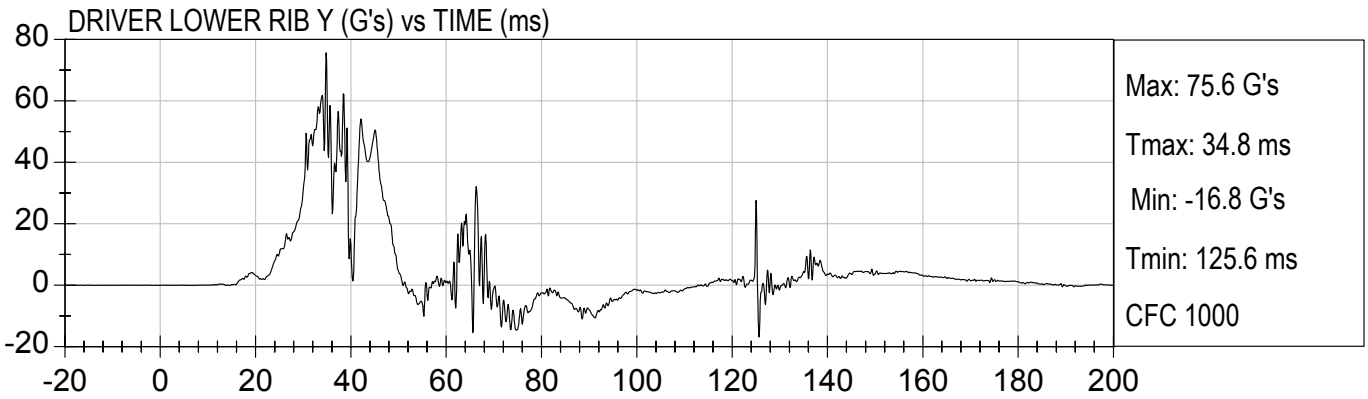


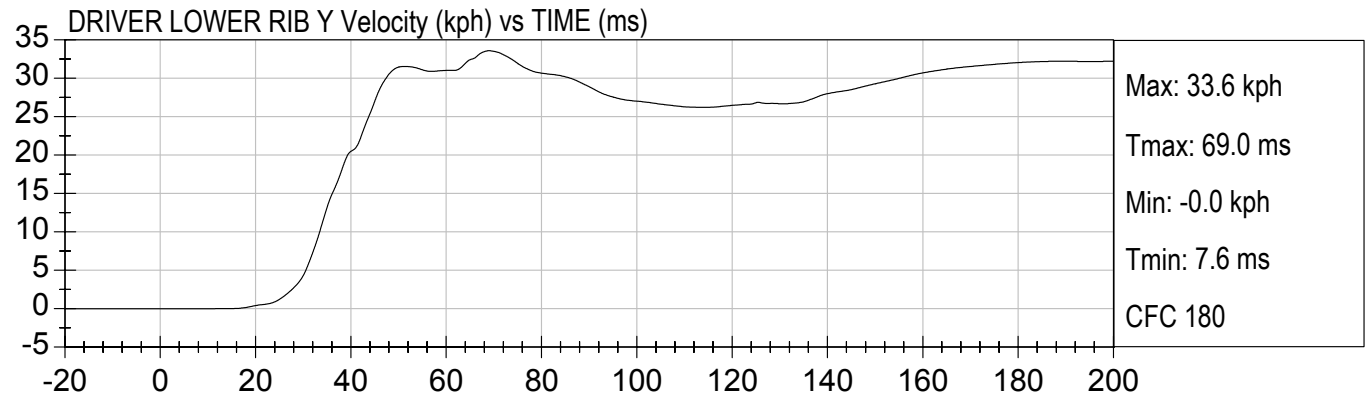
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)



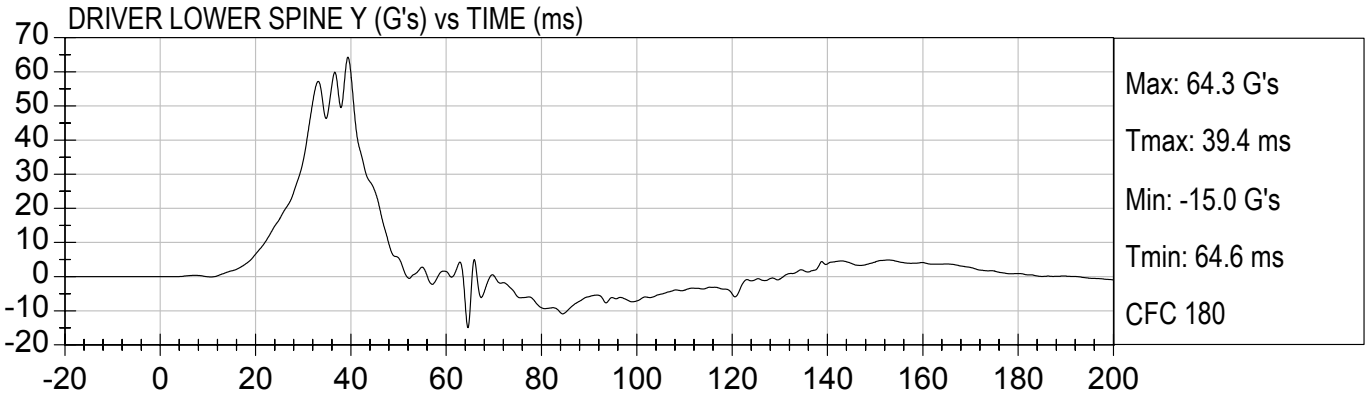


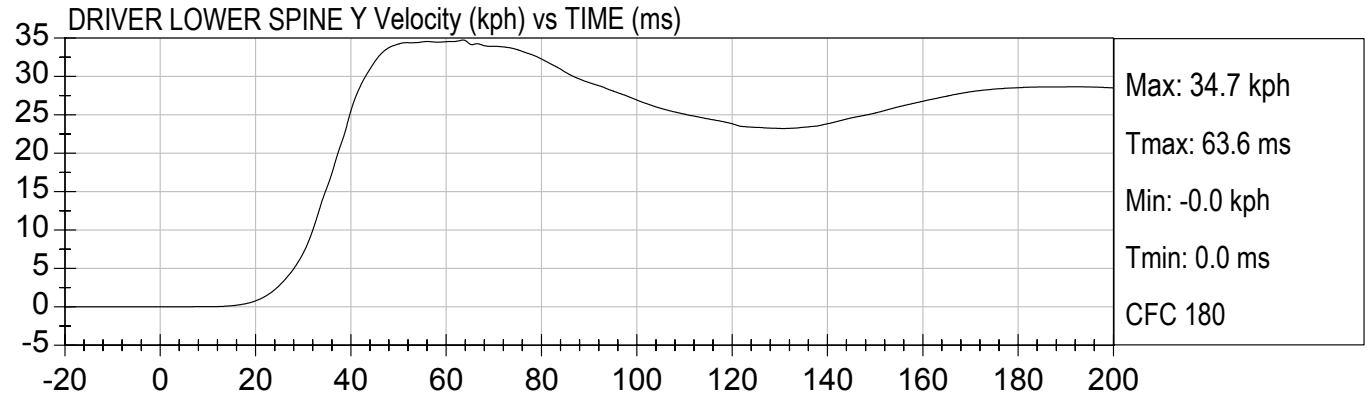


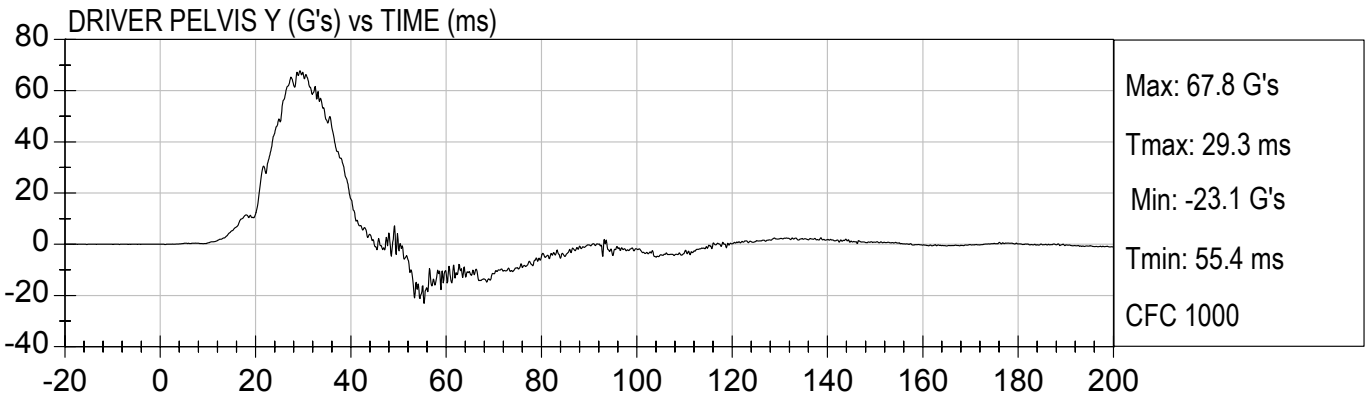


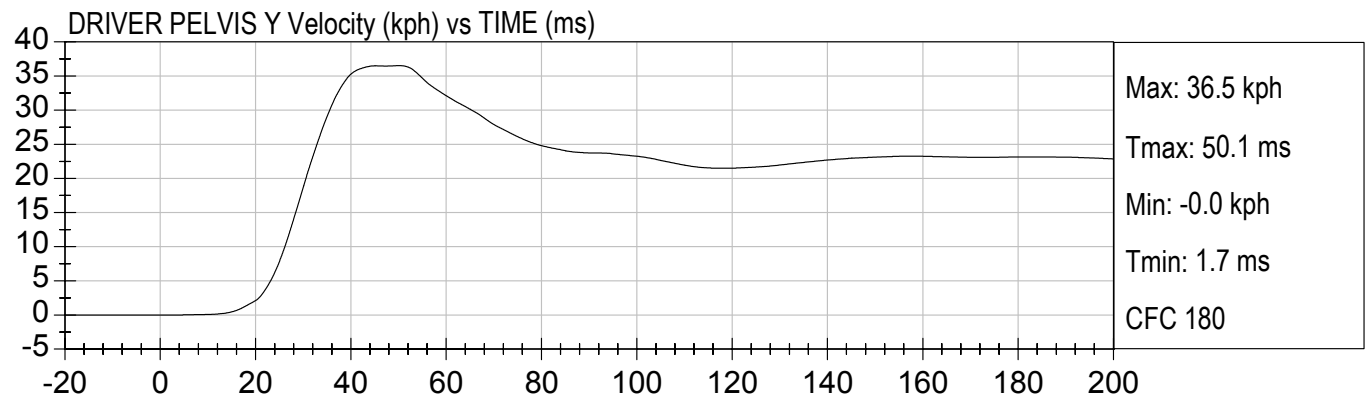
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

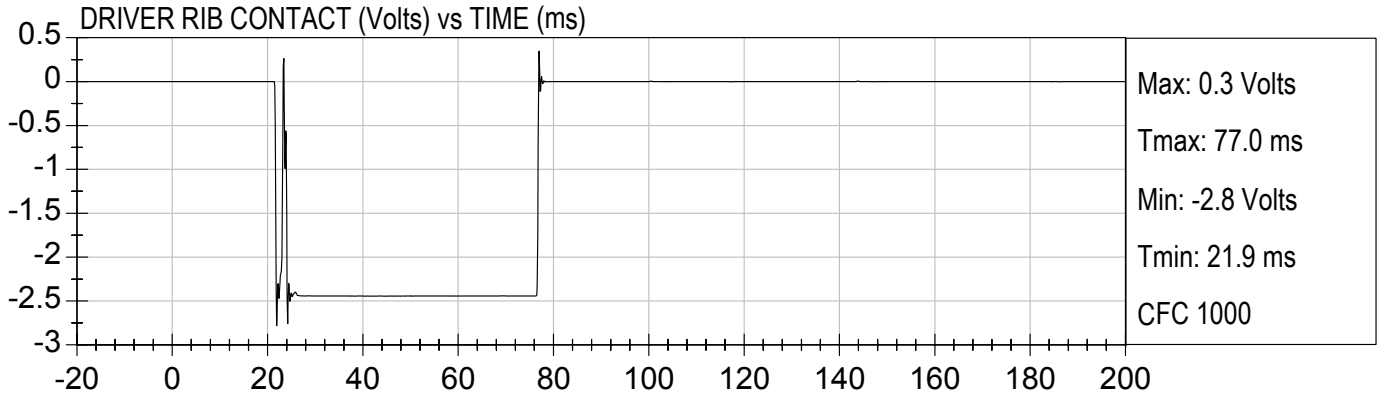
Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)

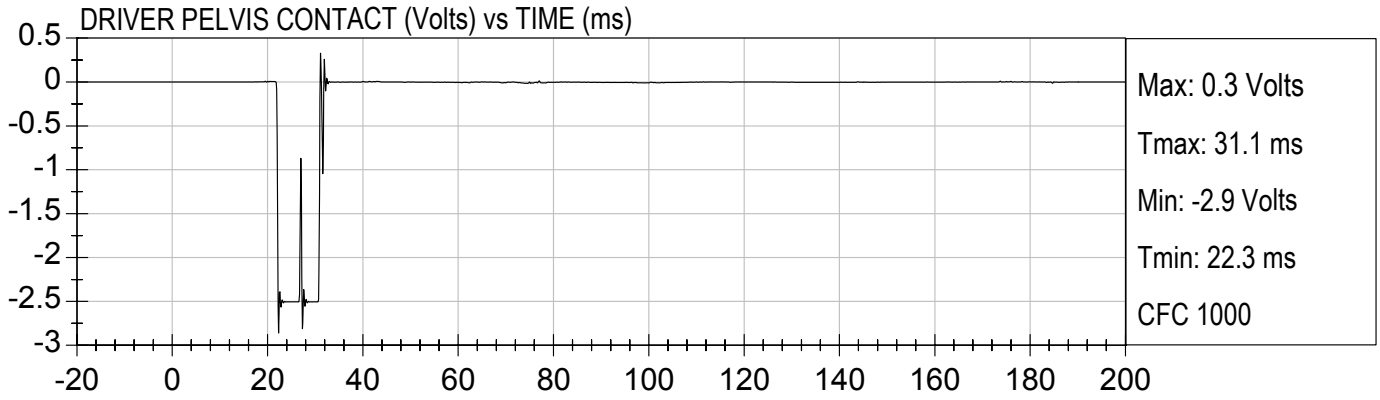






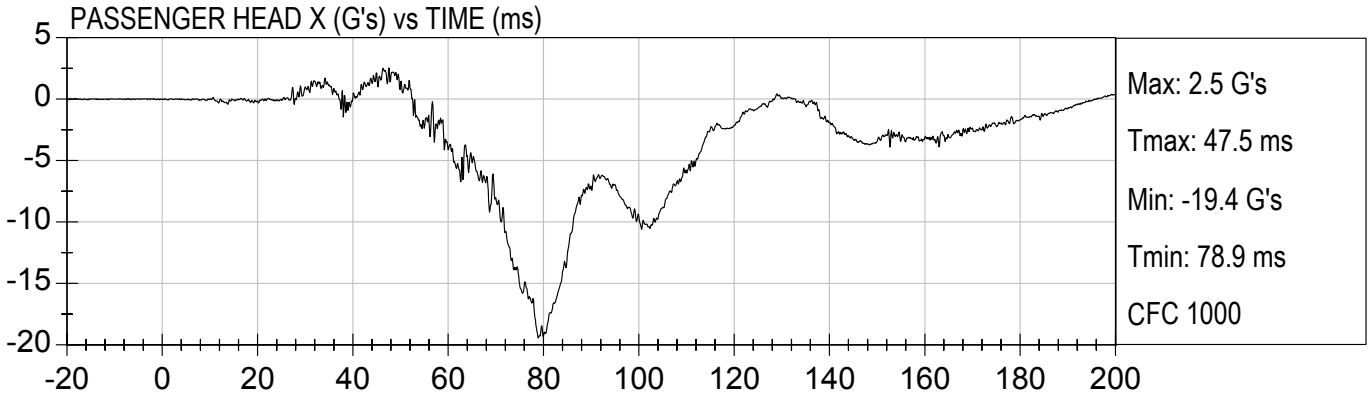


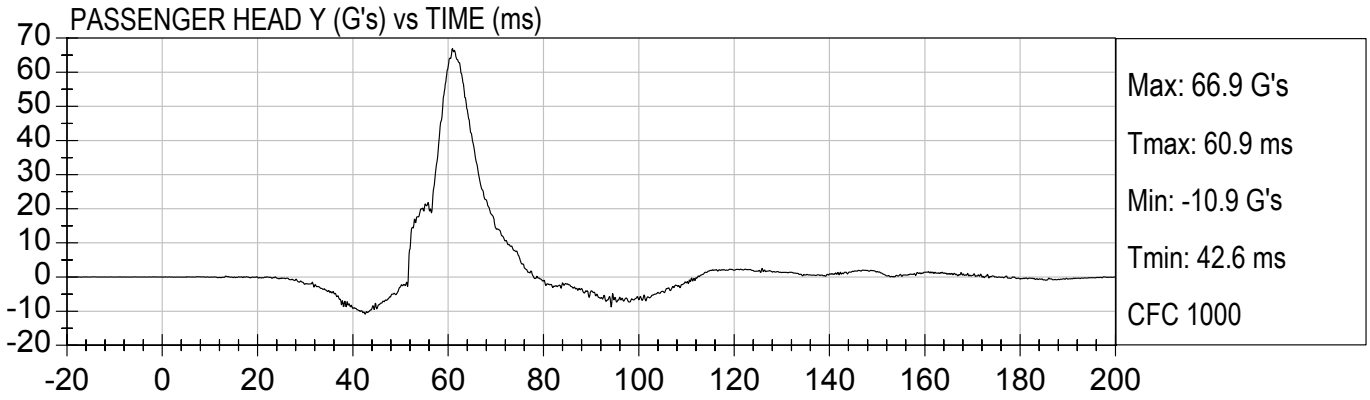

DRIVER RIB CONTACT (Volts) vs TIME (ms)
0.5
0
-0.5
-1
-1.5
-2
-2.5
-3
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 0.3 Volts
Tmax: 77.0 ms
Min: -2.8 Volts
Tmin: 21.9 ms
CFC 1000

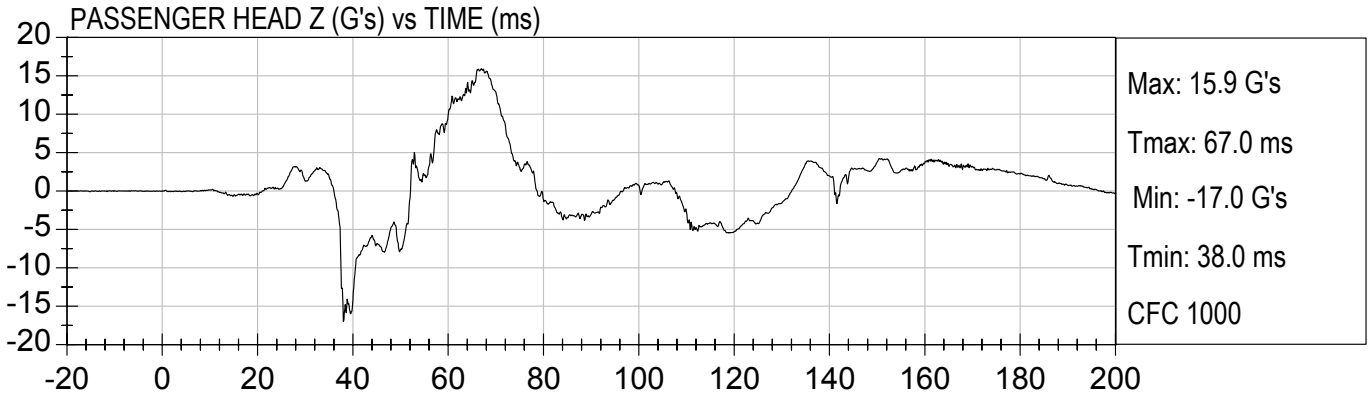

DRIVER PELVIS CONTACT (Volts) vs TIME (ms)
0.5
0
-0.5
-1
-1.5
-2
-2.5
-3
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 0.3 Volts
Tmax: 31.1 ms
Min: -2.9 Volts
Tmin: 22.3 ms
CFC 1000

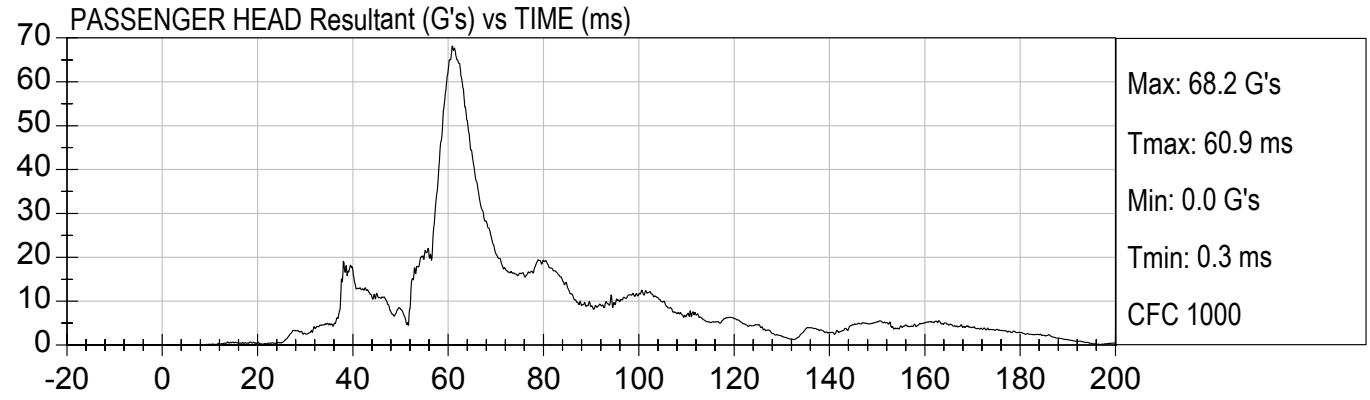
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

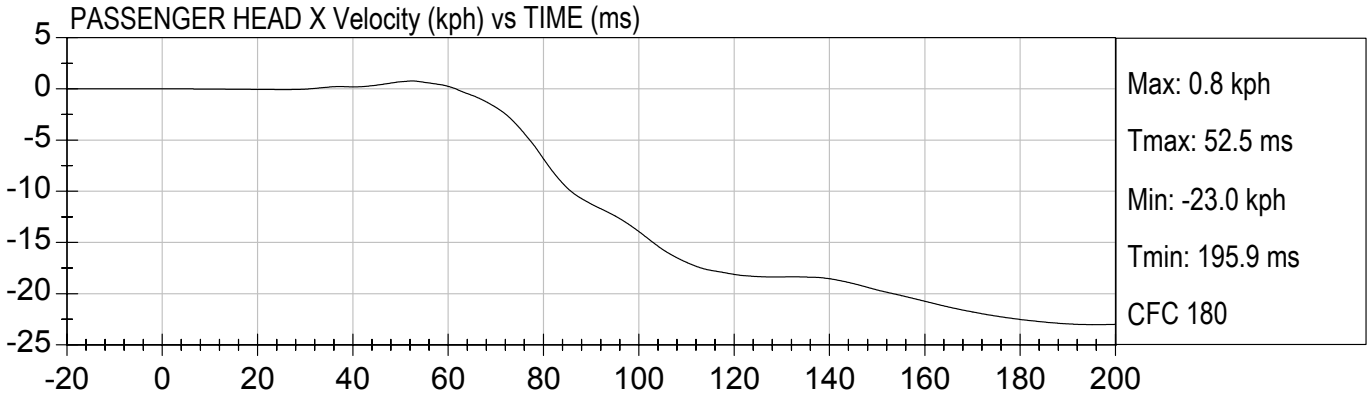
Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)

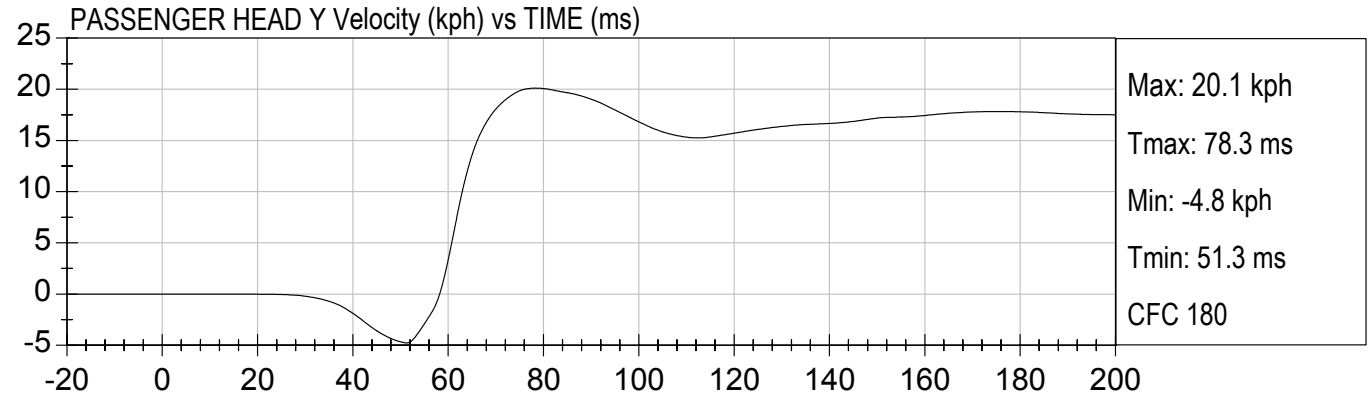


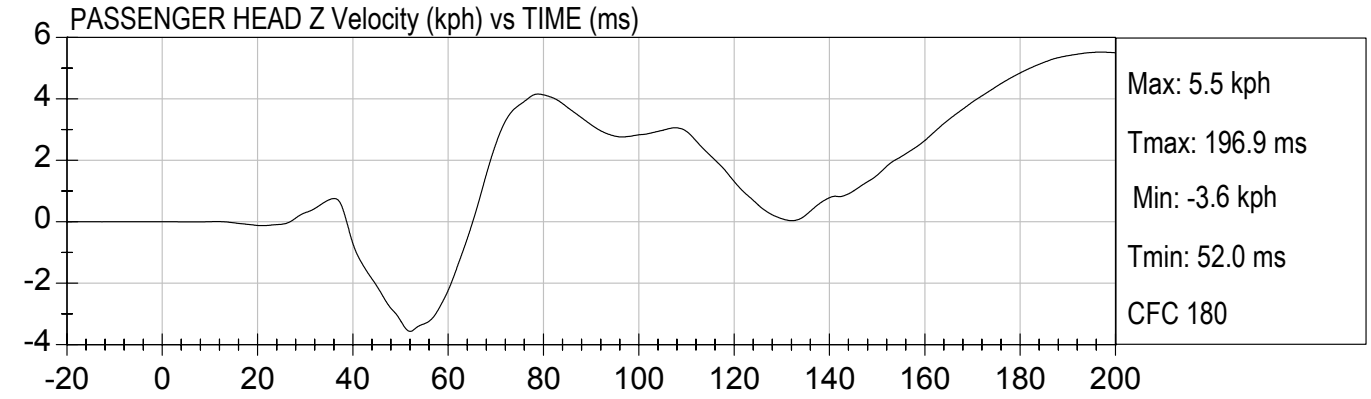






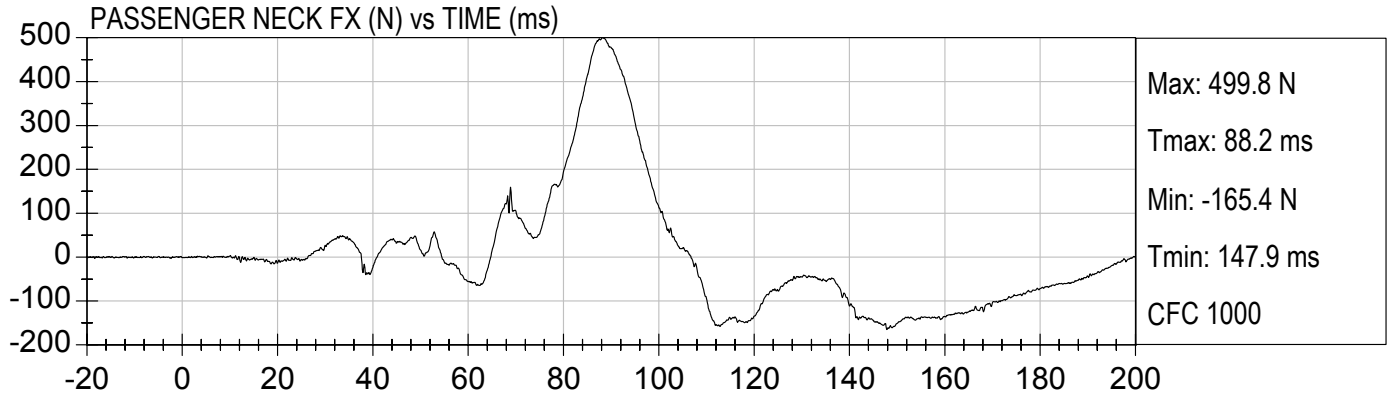

PASSENGER HEAD X Velocity (kph) vs TIME (ms)
5
0
-5
-10
-15
-20
-25
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 0.8 kph
Tmax: 52.5 ms
Min: -23.0 kph
Tmin: 195.9 ms
CFC 180

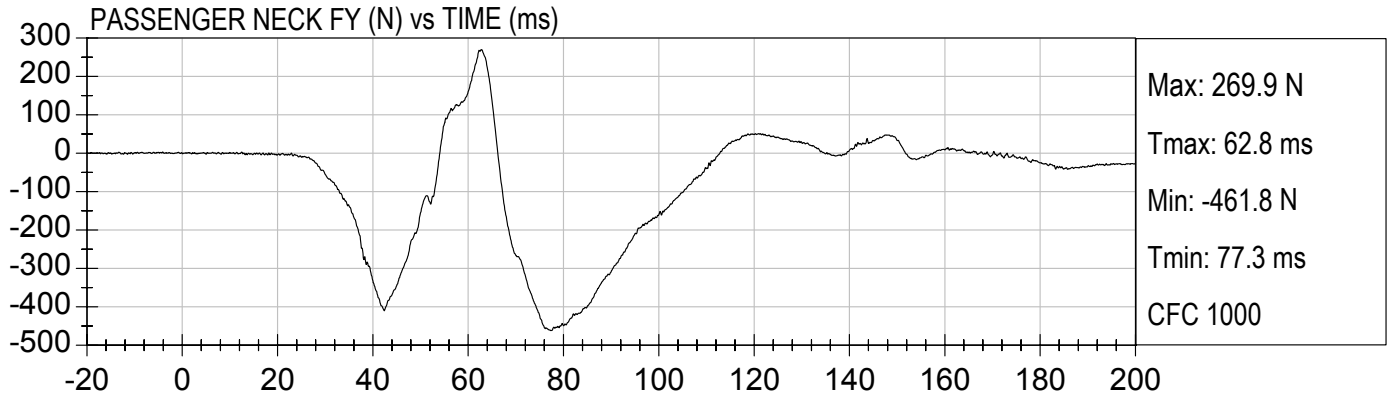

PASSENGER HEAD Y Velocity (kph) vs TIME (ms)
25
20
15
10
5
0
-5
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 20.1 kph
Tmax: 78.3 ms
Min: -4.8 kph
Tmin: 51.3 ms
CFC 180

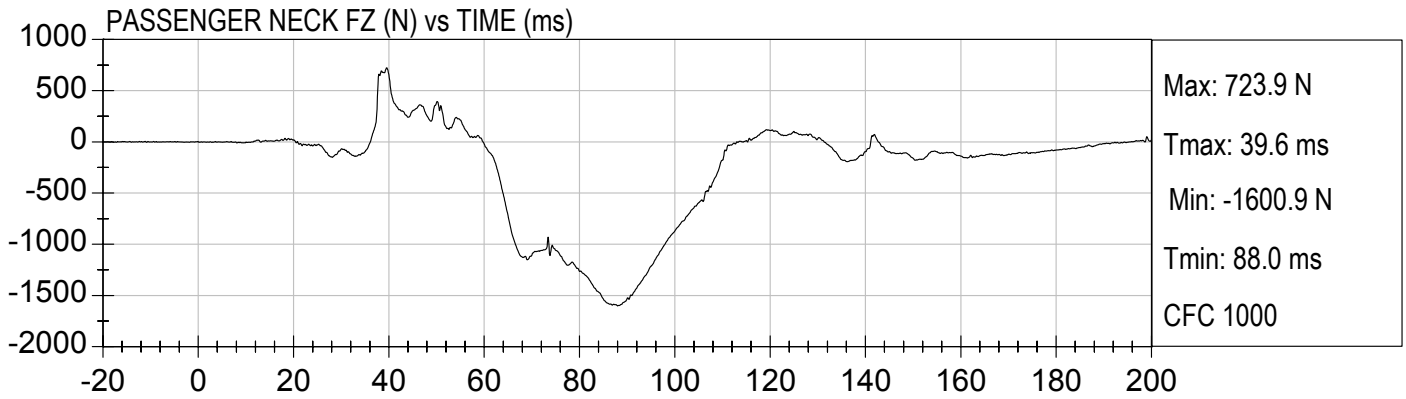

PASSENGER HEAD Z Velocity (kph) vs TIME (ms)
6
4
2
0
-2
-4
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 5.5 kph
Tmax: 196.9 ms
Min: -3.6 kph
Tmin: 52.0 ms
CFC 180

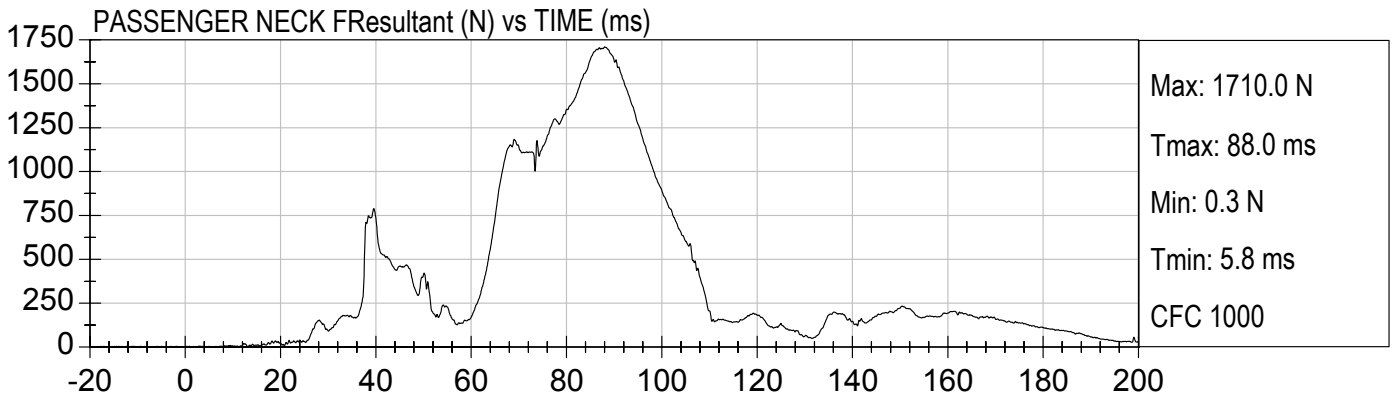
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)



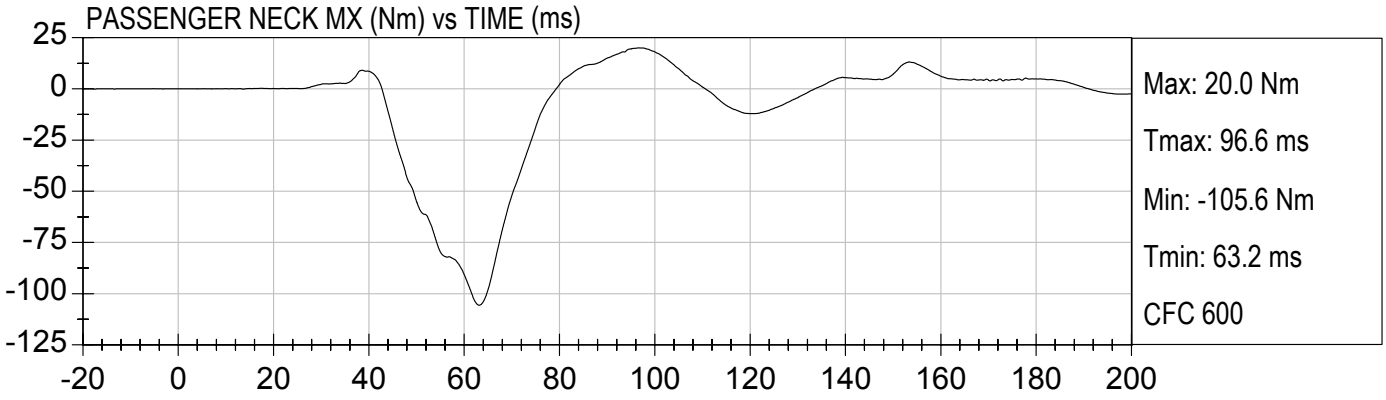


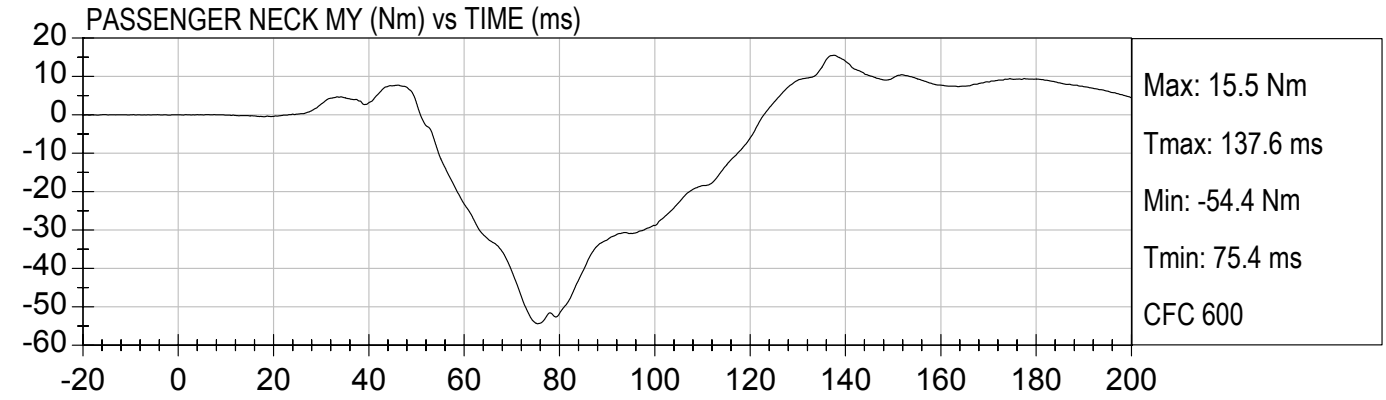


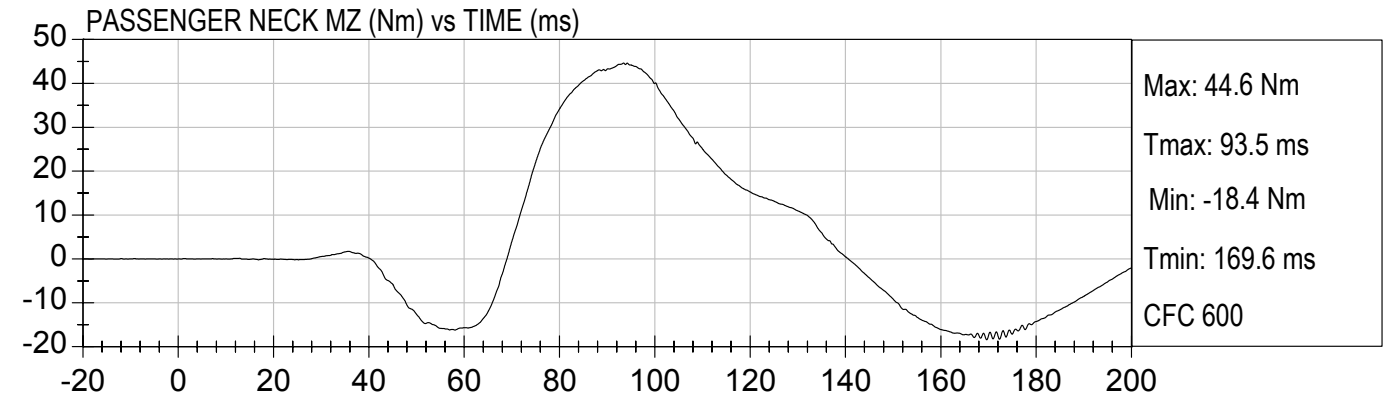


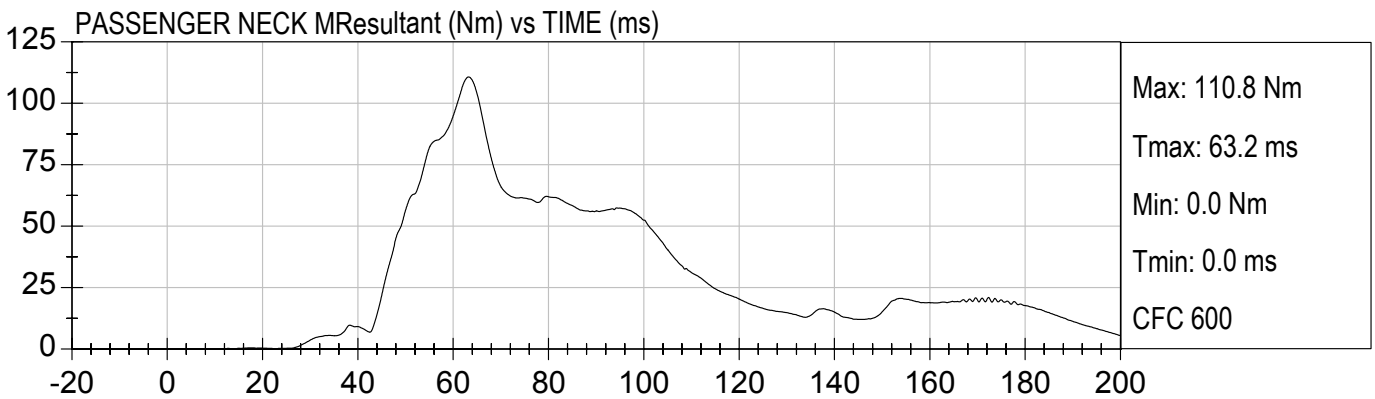
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)



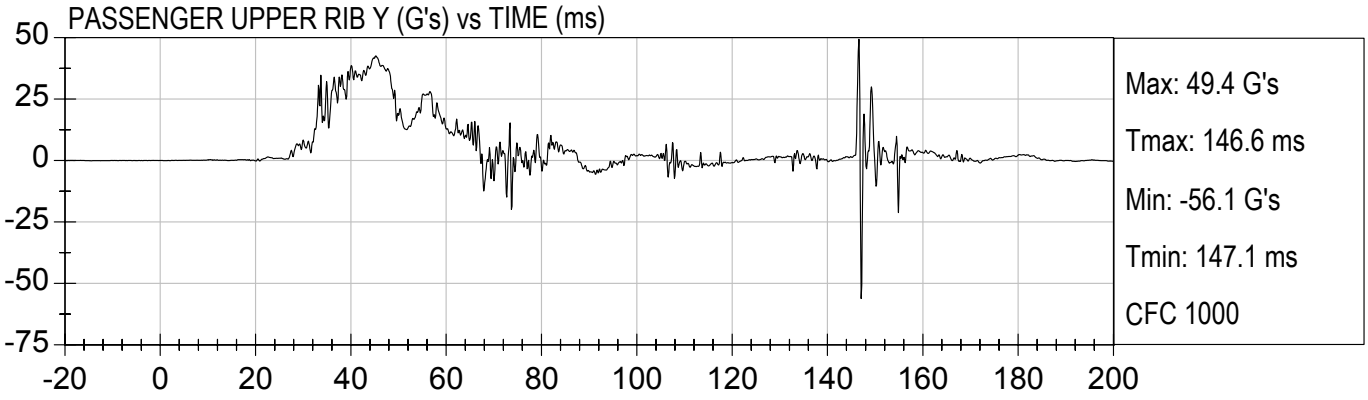


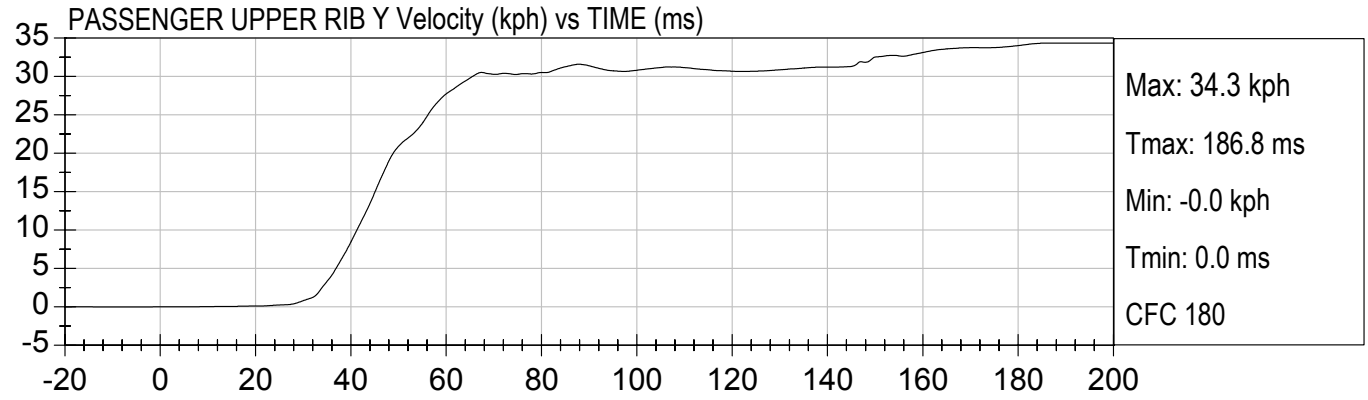


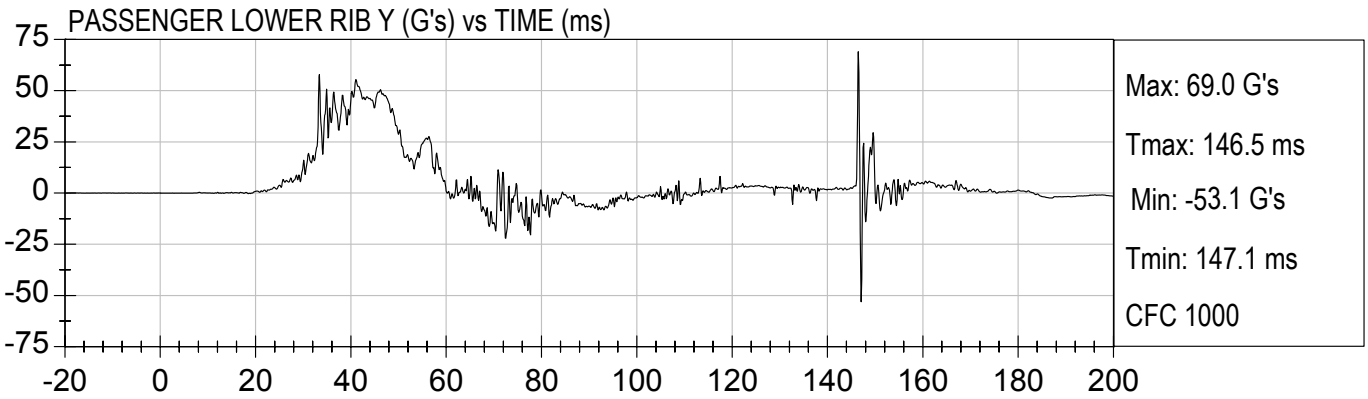


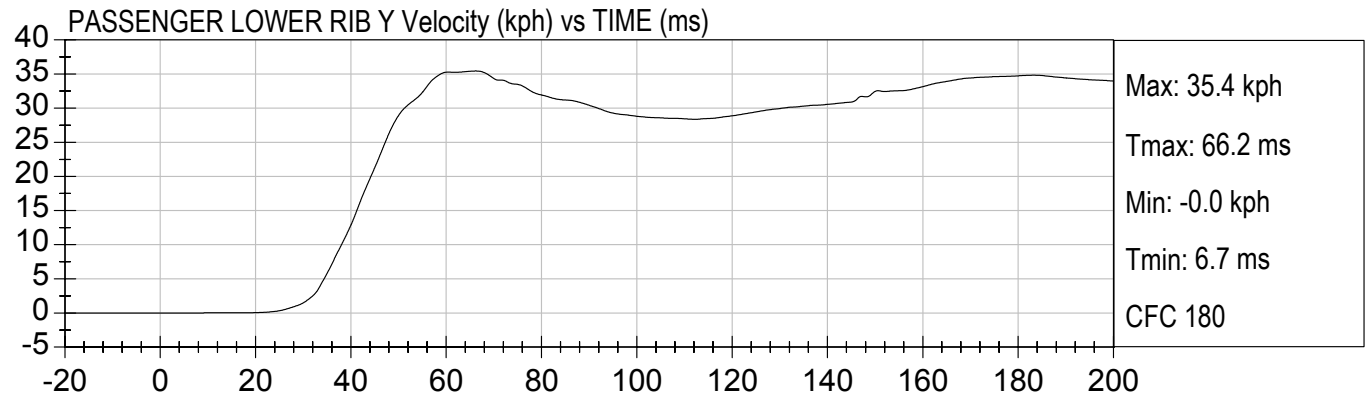
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)





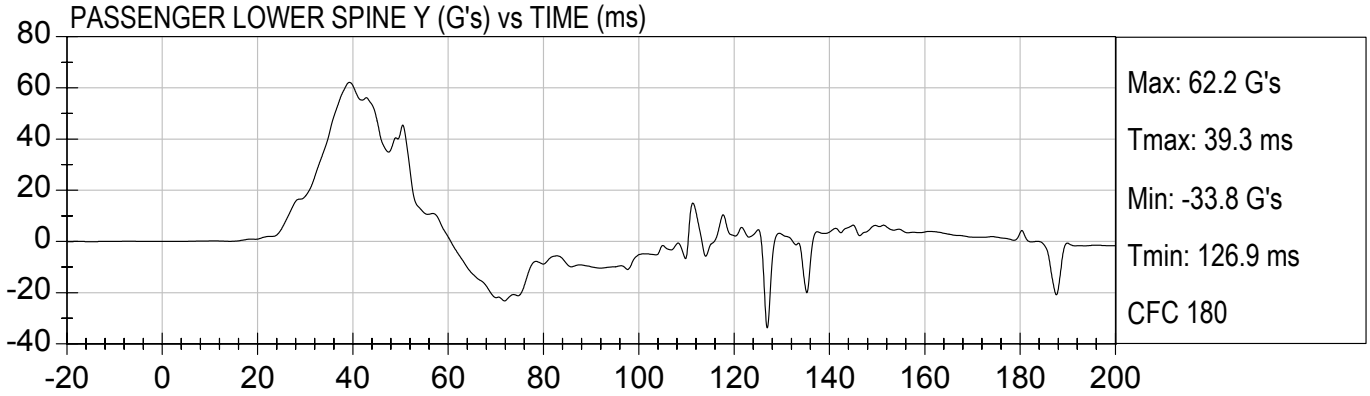




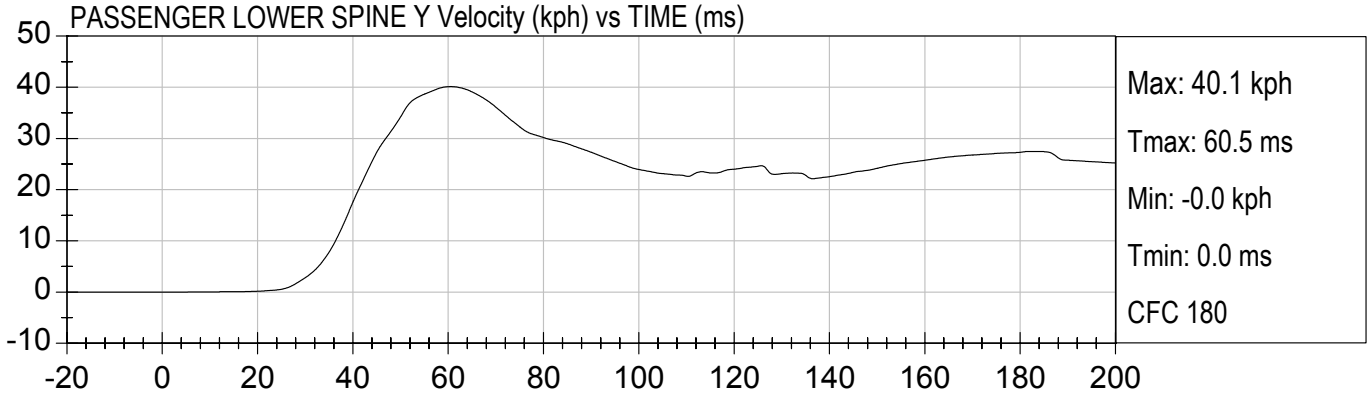
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)

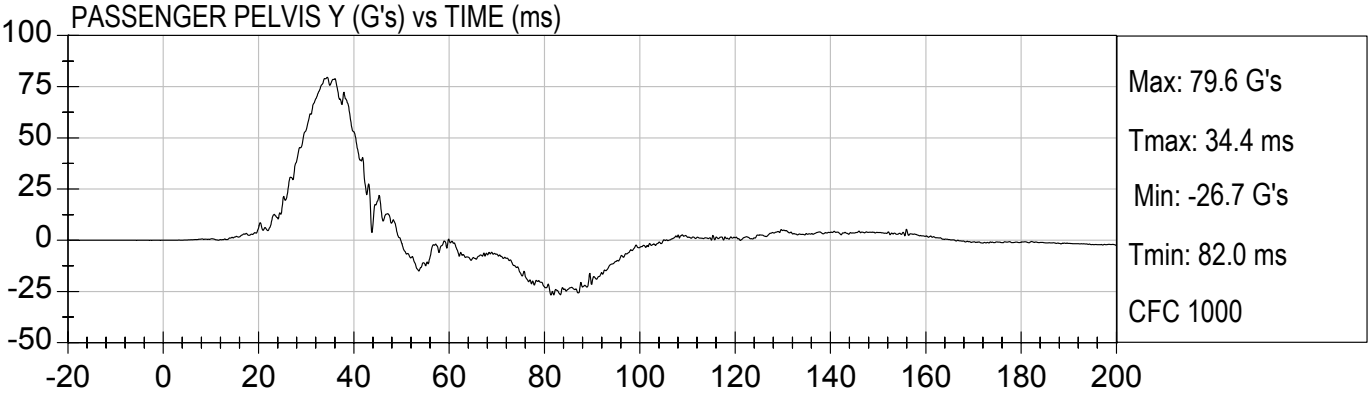
PASSENGER LOWER SPINE Y (G's) vs TIME (ms)



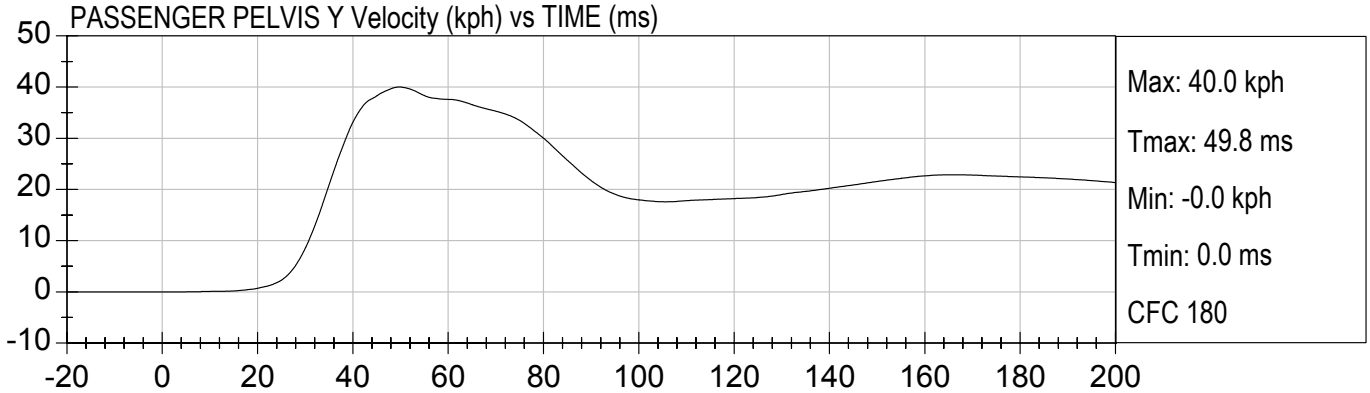
PASSENGER LOWER SPINE Y Velocity (kph) vs TIME (ms)

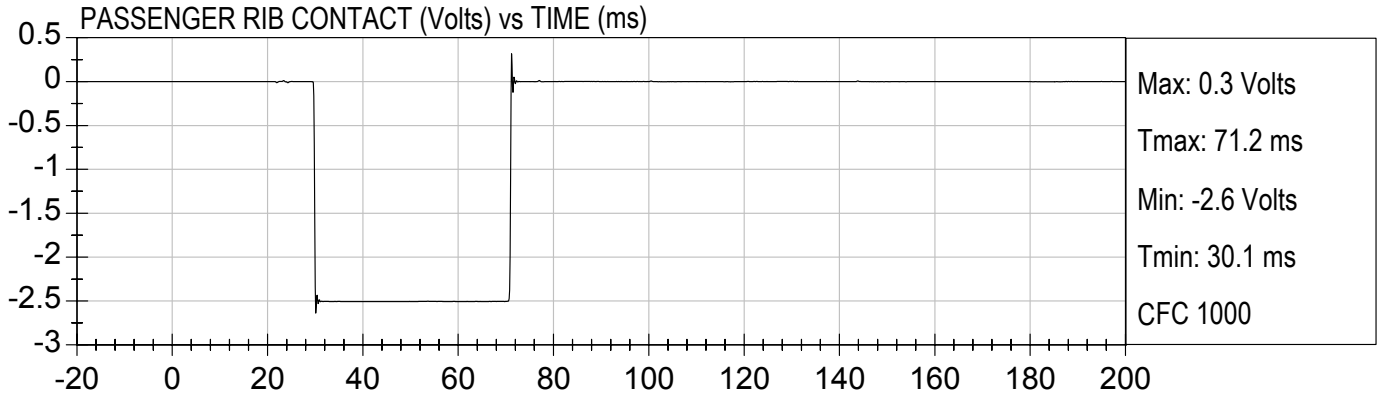


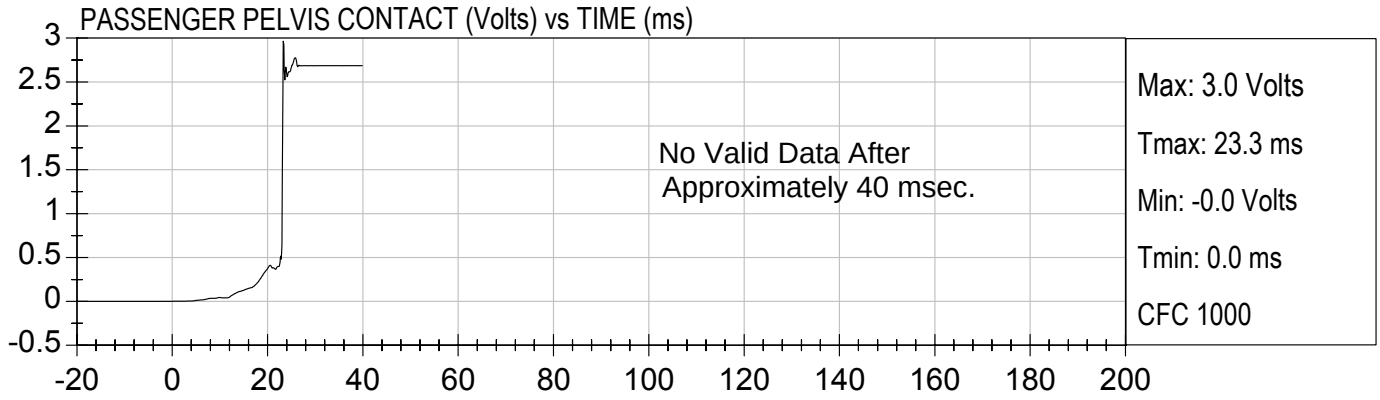
PASSENGER PELVIS Y (G's) vs TIME (ms)



PASSENGER PELVIS Y Velocity (kph) vs TIME (ms)

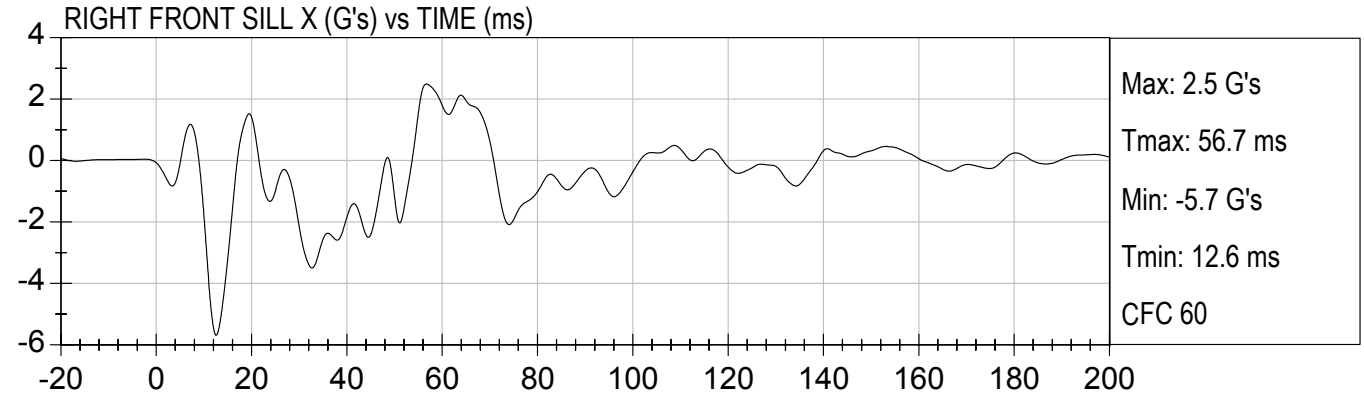


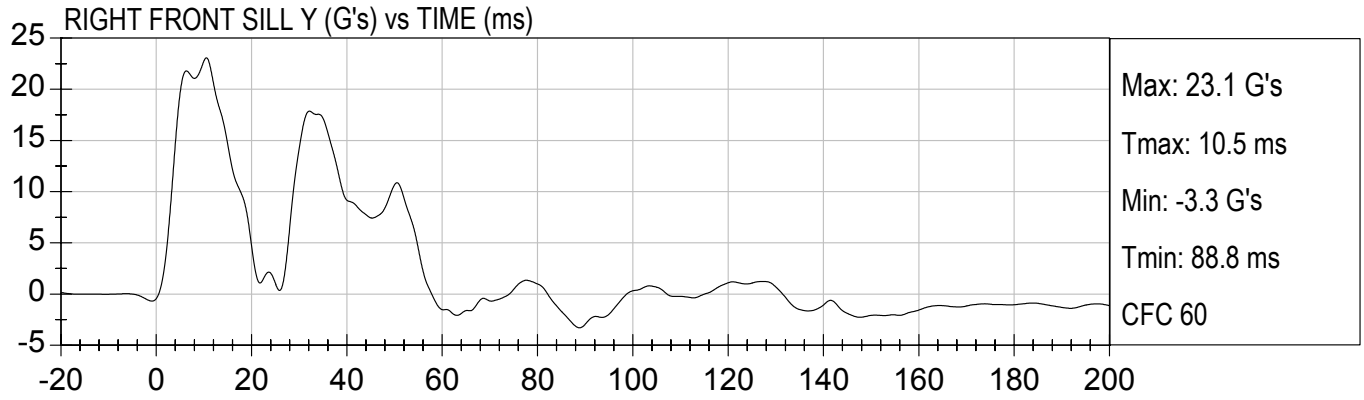

PASSENGER RIB CONTACT (Volts) vs TIME (ms)
0.5
0
-0.5
-1
-1.5
-2
-2.5
-3
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 0.3 Volts
Tmax: 71.2 ms
Min: -2.6 Volts
Tmin: 30.1 ms
CFC 1000

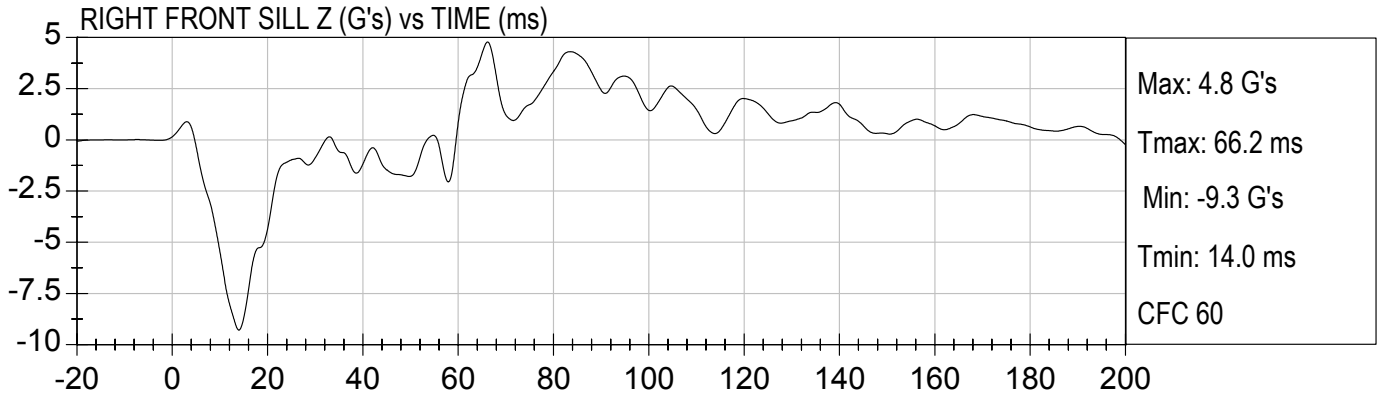

PASSENGER PELVIS CONTACT (Volts) vs TIME (ms)
3
2.5
2
1.5
1
0.5
0
-0.5
-20
0
20
40
60
80
100
120
140
160
180
200
No Valid Data After
Approximately 40 msec.
Max: 3.0 Volts
Tmax: 23.3 ms
Min: -0.0 Volts
Tmin: 0.0 ms
CFC 1000

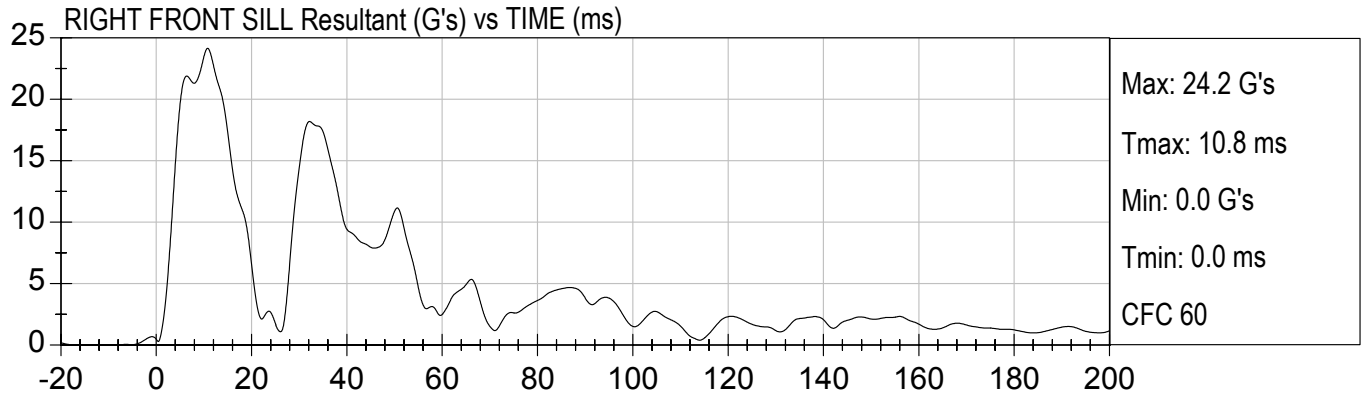
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

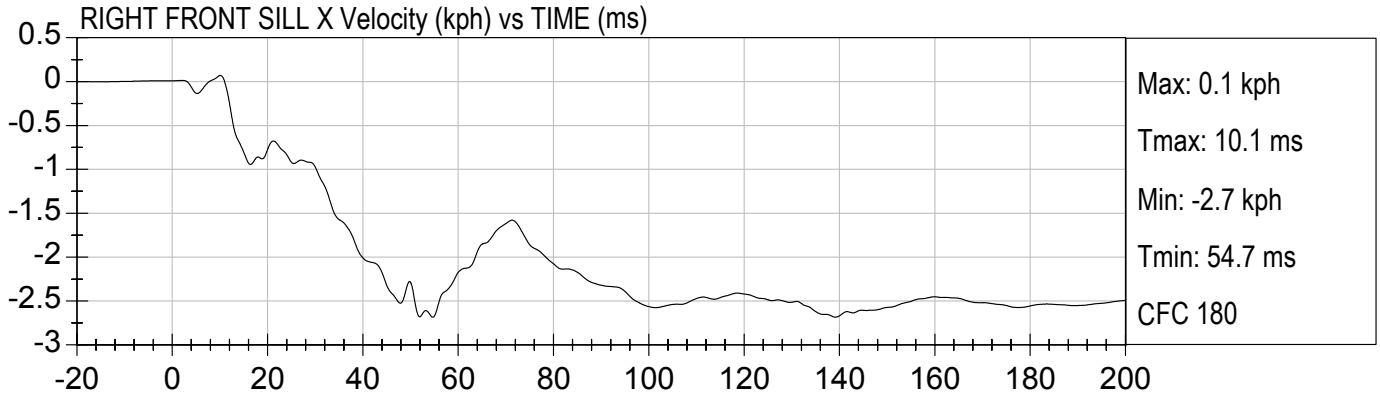
Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)

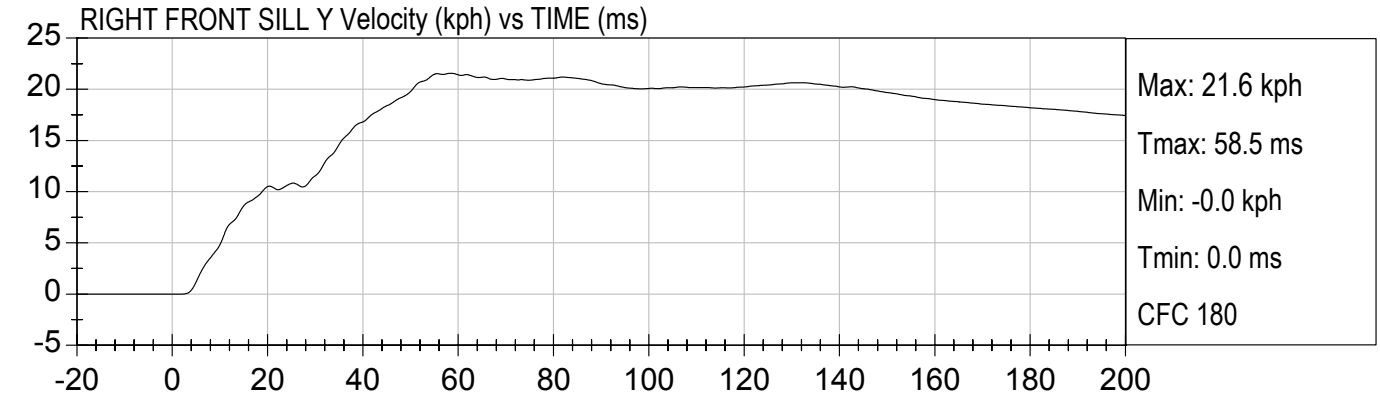


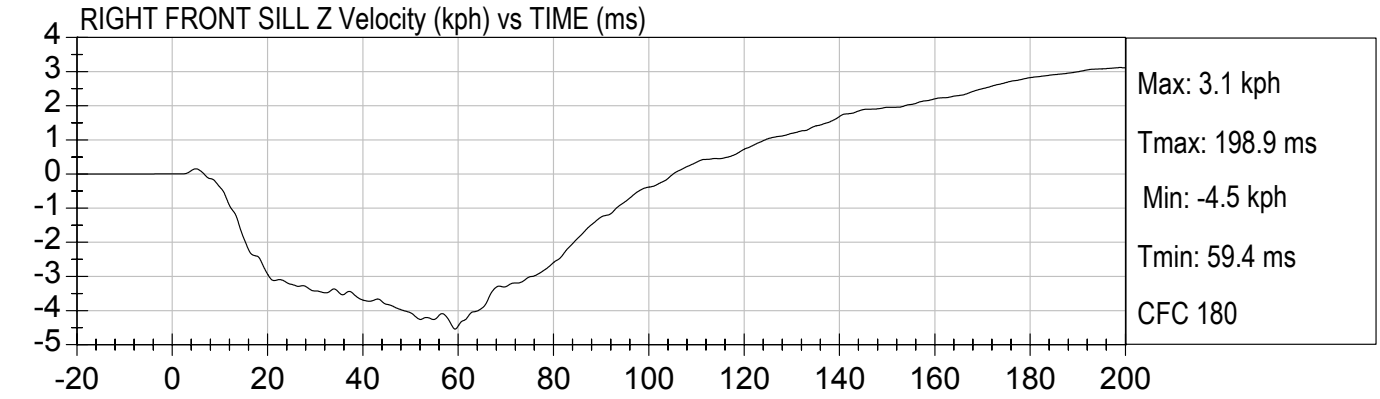






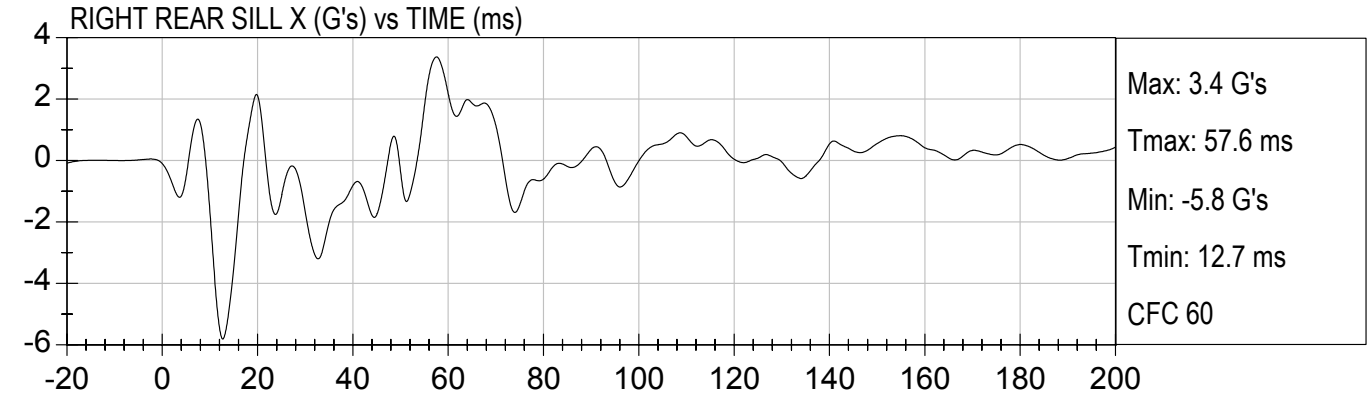

RIGHT FRONT SILL X Velocity (kph) vs TIME (ms)
0.5
0
-0.5
-1
-1.5
-2
-2.5
-3
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 0.1 kph
Tmax: 10.1 ms
Min: -2.7 kph
Tmin: 54.7 ms
CFC 180

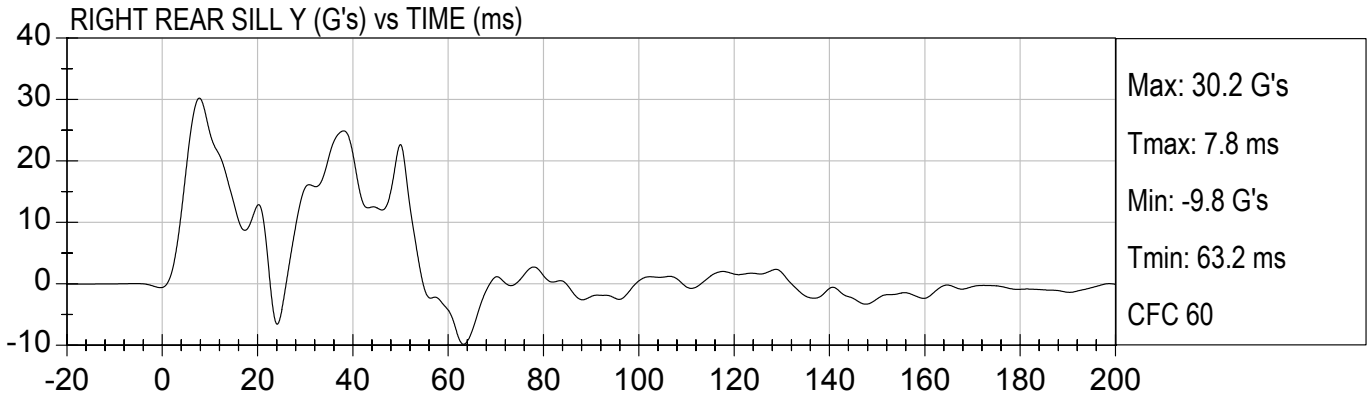

RIGHT FRONT SILL Y Velocity (kph) vs TIME (ms)
25
20
15
10
5
0
-5
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 21.6 kph
Tmax: 58.5 ms
Min: -0.0 kph
Tmin: 0.0 ms
CFC 180

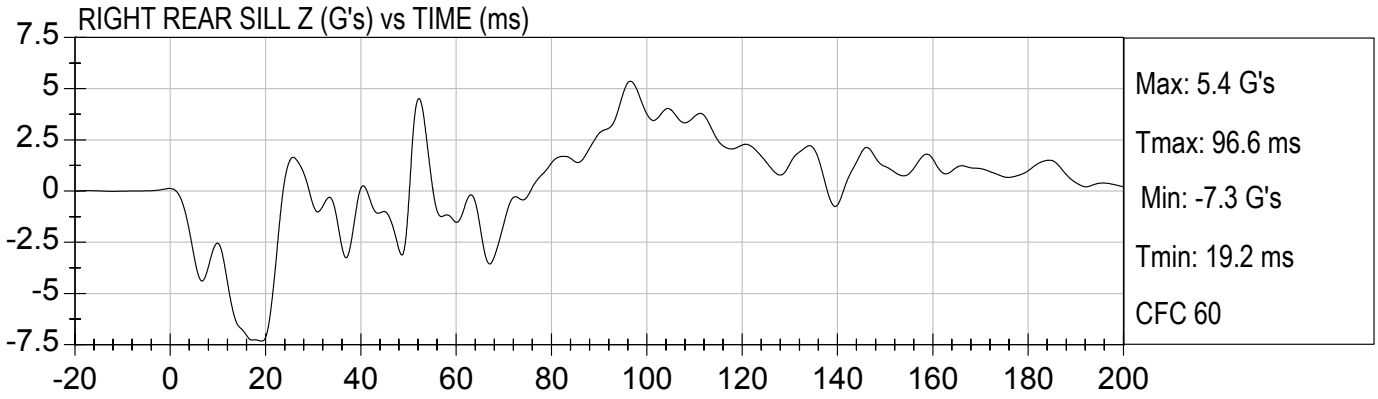

RIGHT FRONT SILL Z Velocity (kph) vs TIME (ms)
4
3
2
1
0
-1
-2
-3
-4
-5
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 3.1 kph
Tmax: 198.9 ms
Min: -4.5 kph
Tmin: 59.4 ms
CFC 180

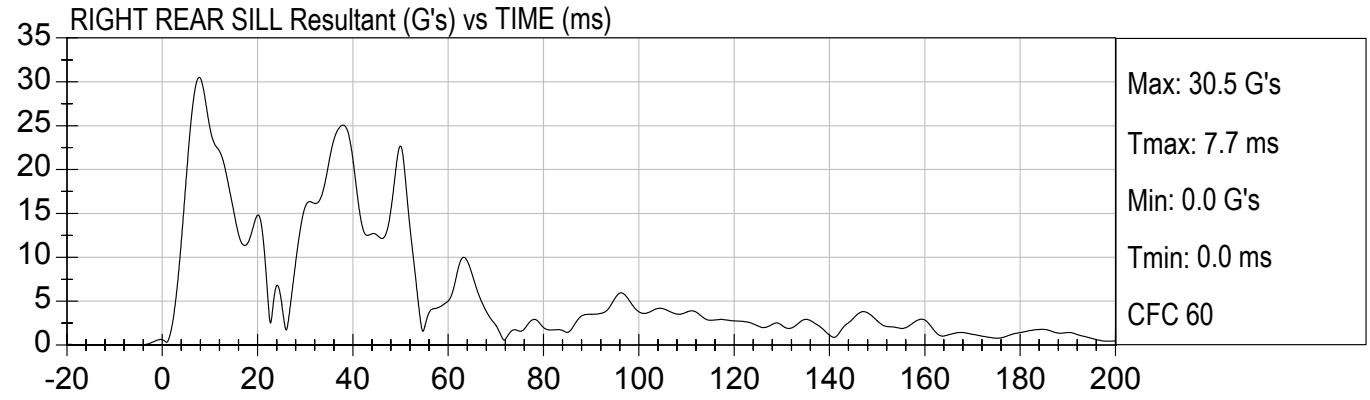
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

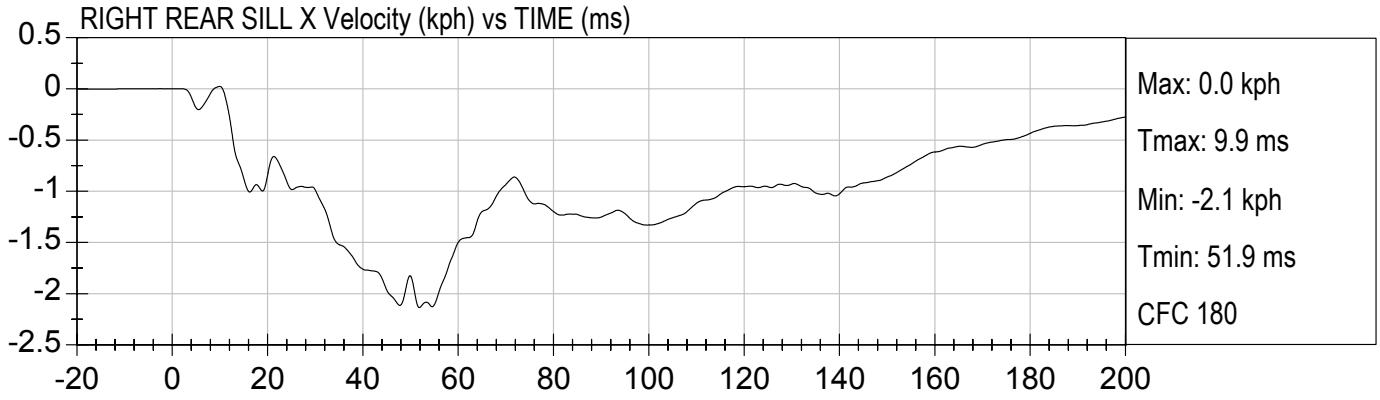
Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)

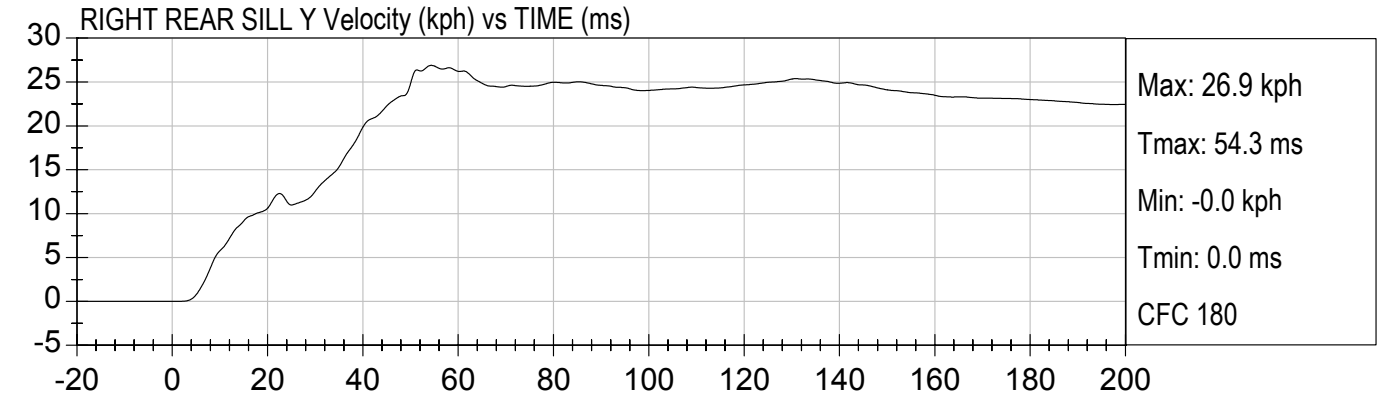


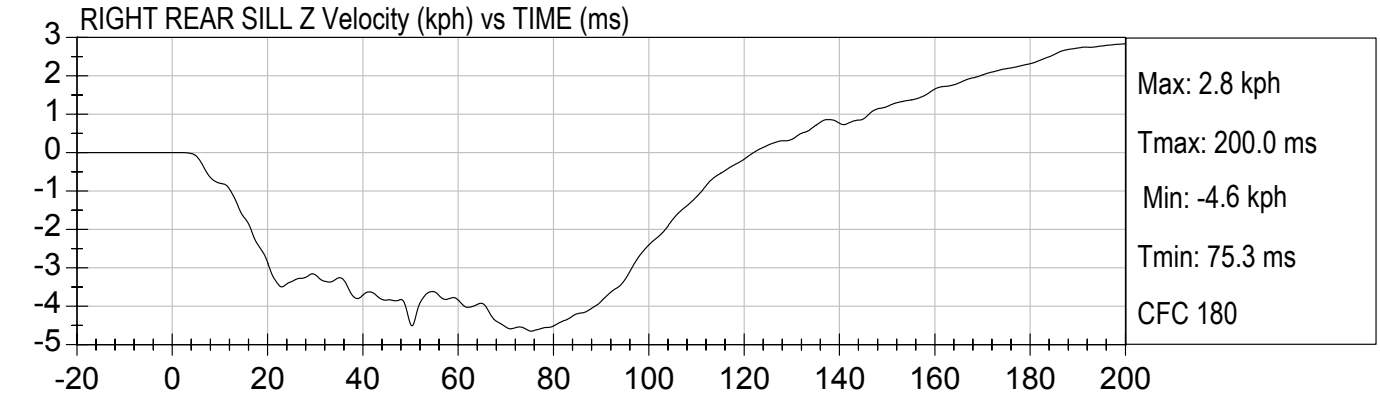






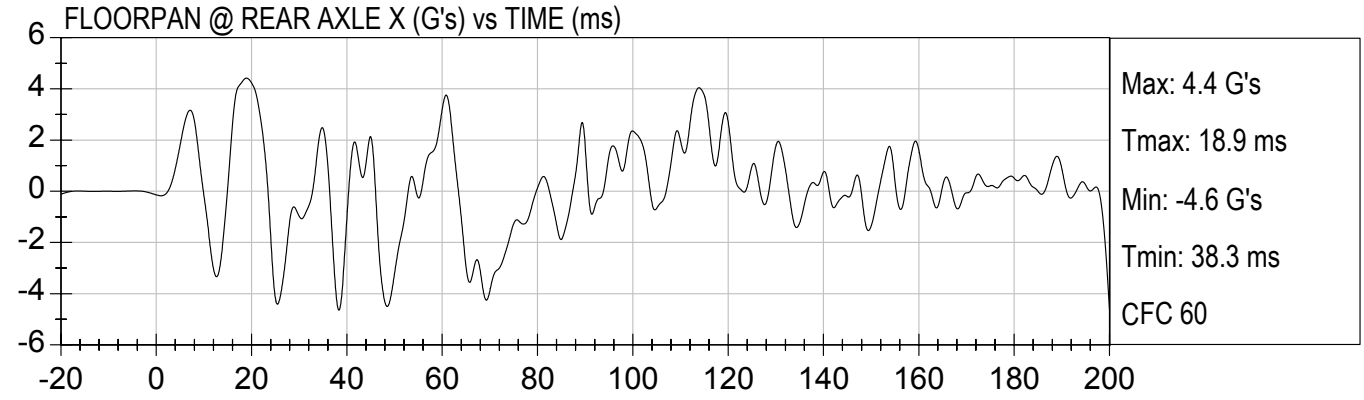

RIGHT REAR SILL X Velocity (kph) vs TIME (ms)
0.5
0
-0.5
-1
-1.5
-2
-2.5
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 0.0 kph
Tmax: 9.9 ms
Min: -2.1 kph
Tmin: 51.9 ms
CFC 180

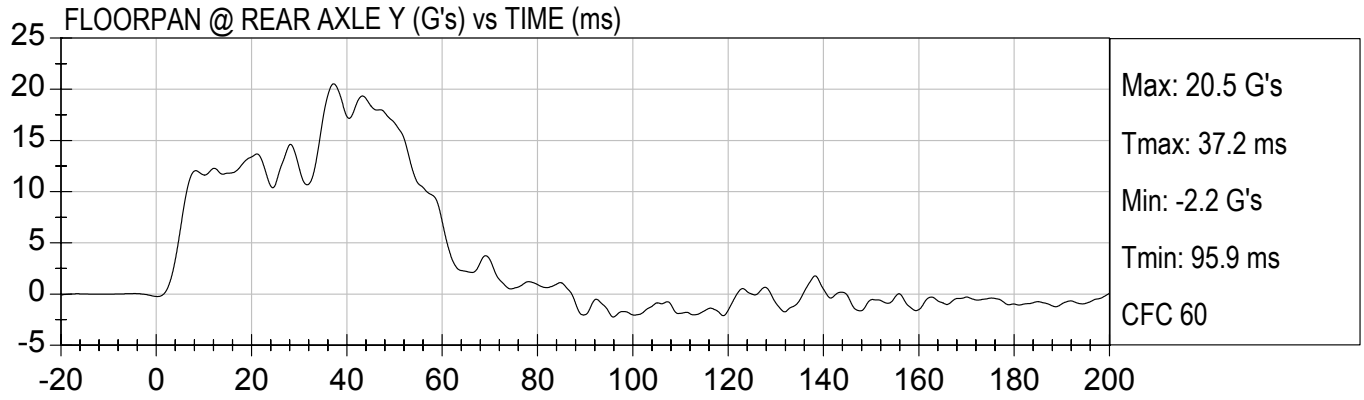

RIGHT REAR SILL Y Velocity (kph) vs TIME (ms)
30
25
20
15
10
5
0
-5
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 26.9 kph
Tmax: 54.3 ms
Min: -0.0 kph
Tmin: 0.0 ms
CFC 180

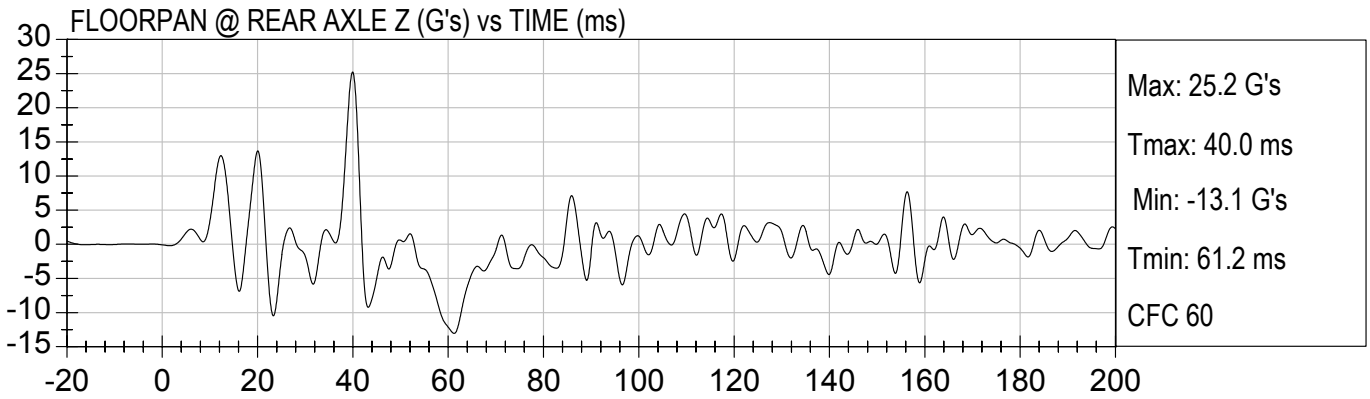

RIGHT REAR SILL Z Velocity (kph) vs TIME (ms)
3
2
1
0
-1
-2
-3
-4
-5
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 2.8 kph
Tmax: 200.0 ms
Min: -4.6 kph
Tmin: 75.3 ms
CFC 180

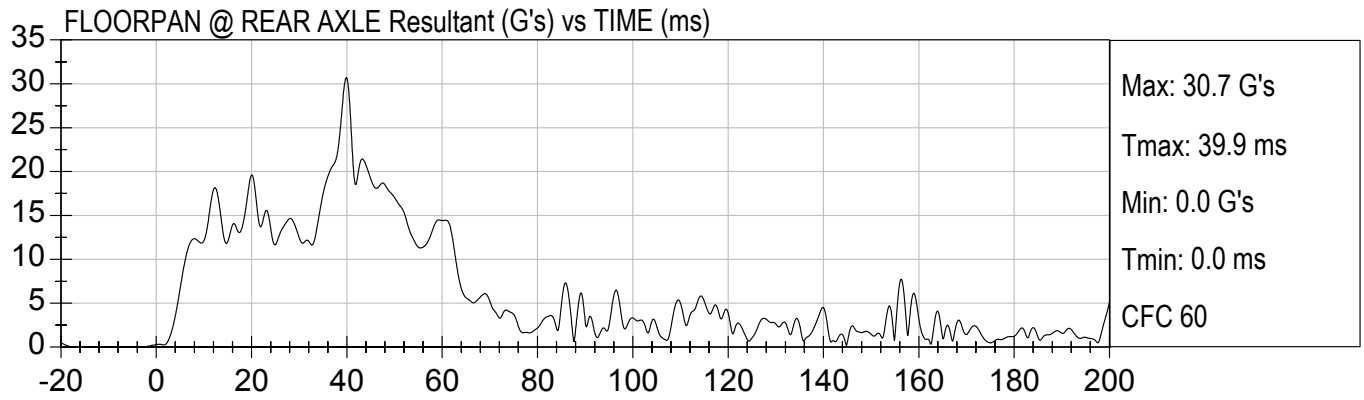
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)



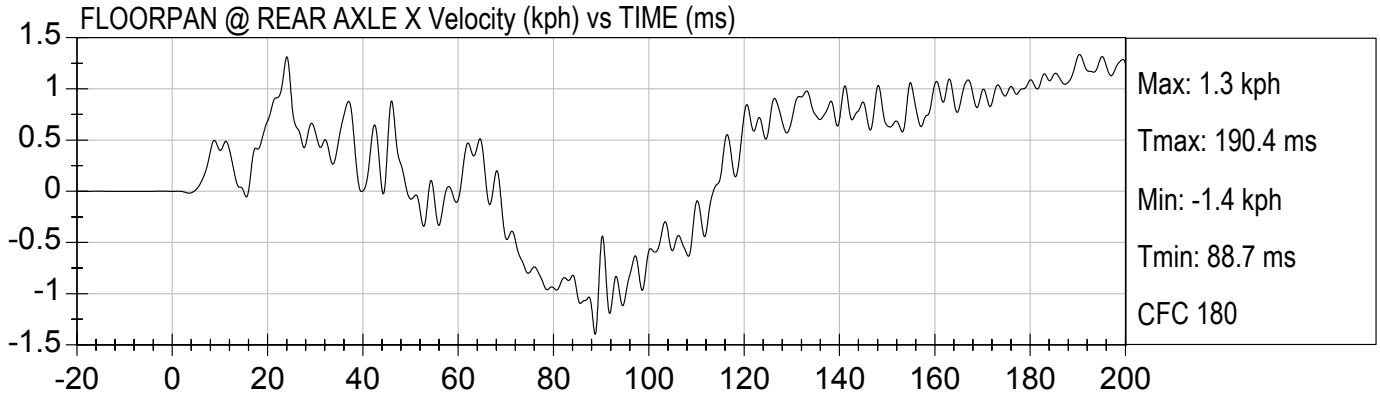


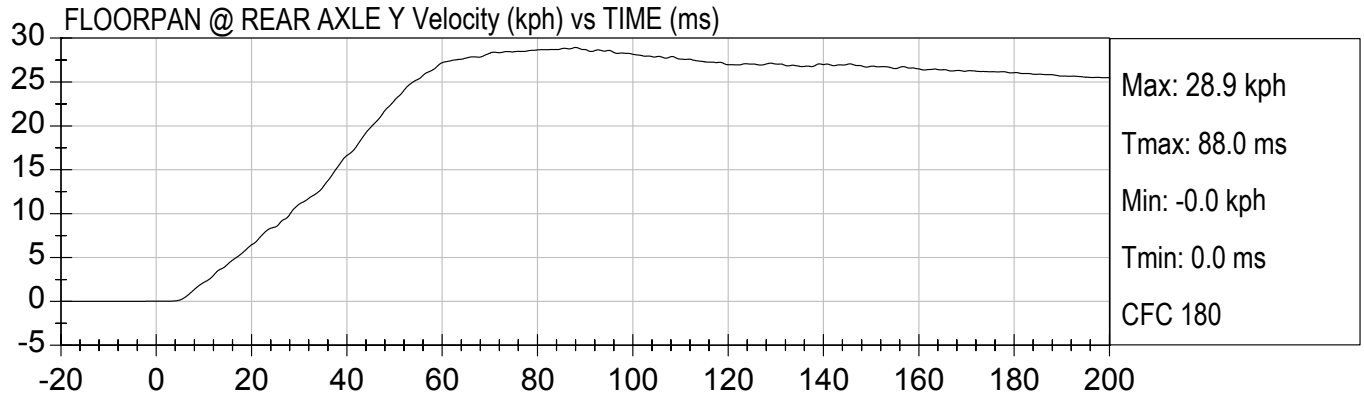


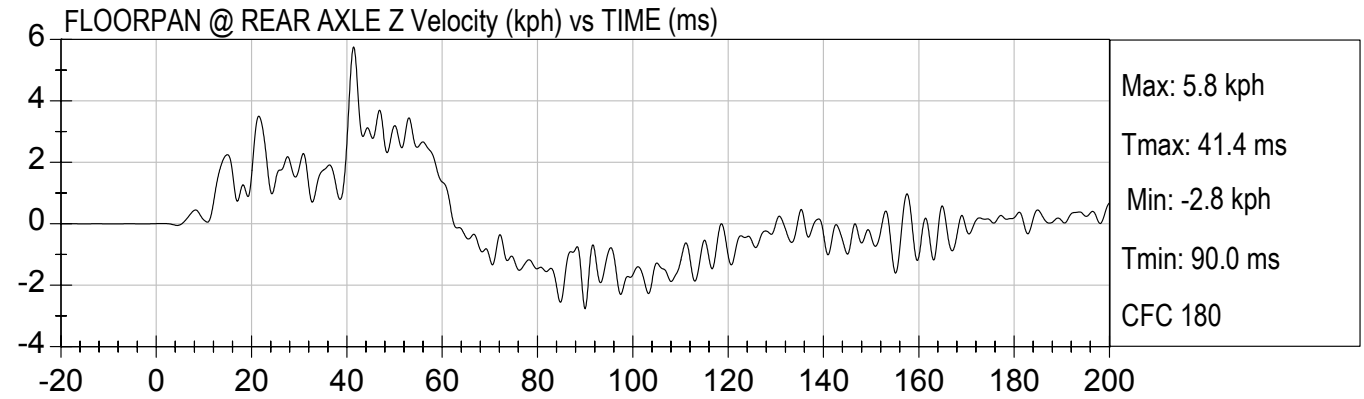


NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)

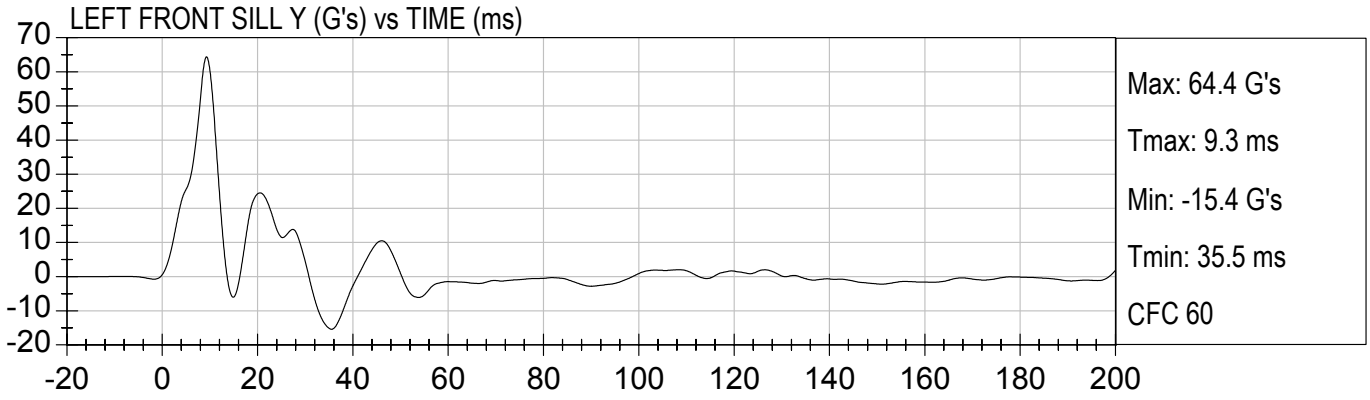


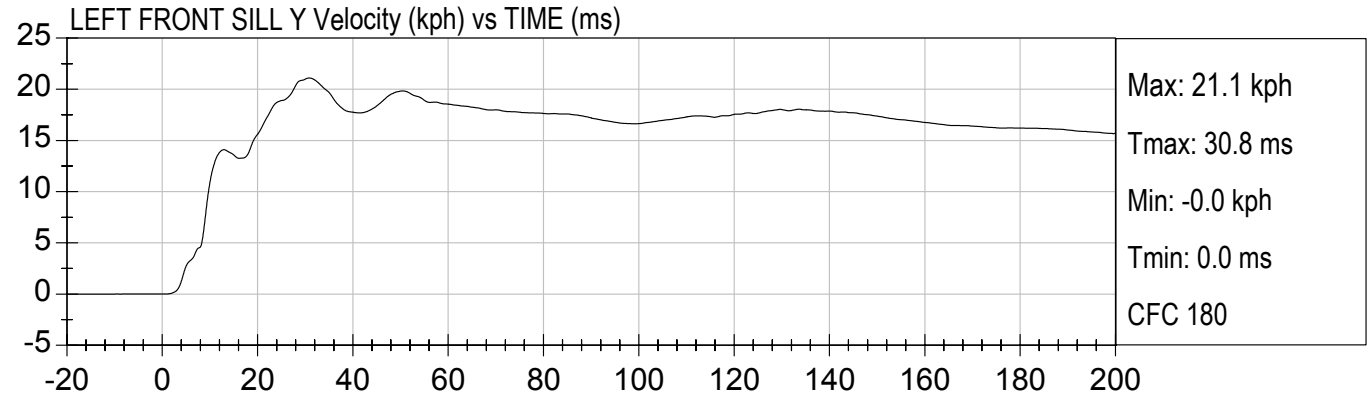


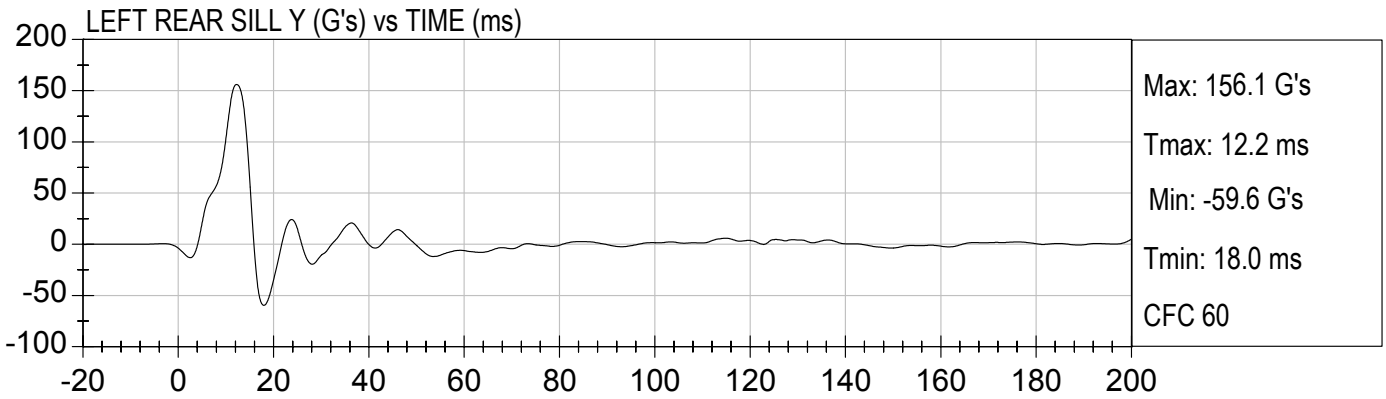


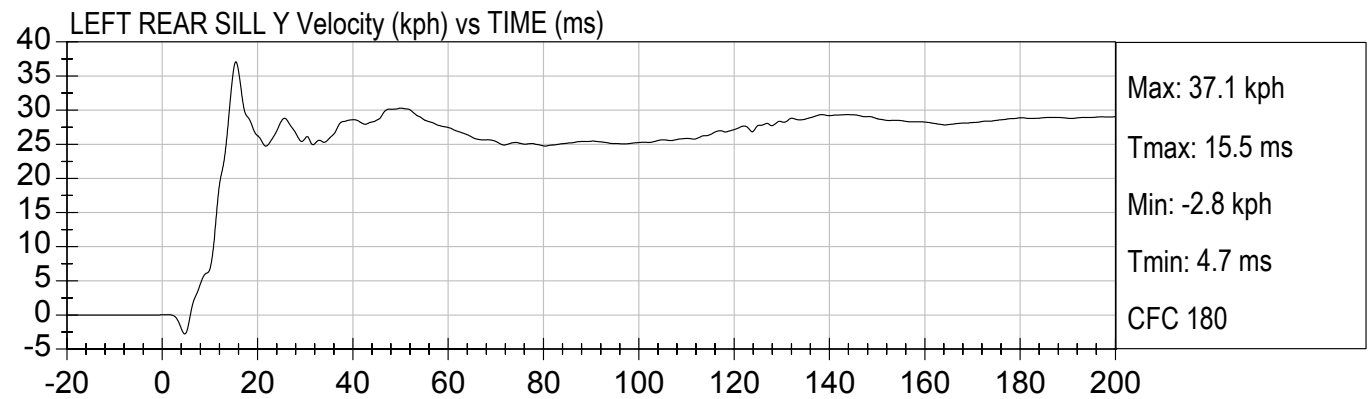
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

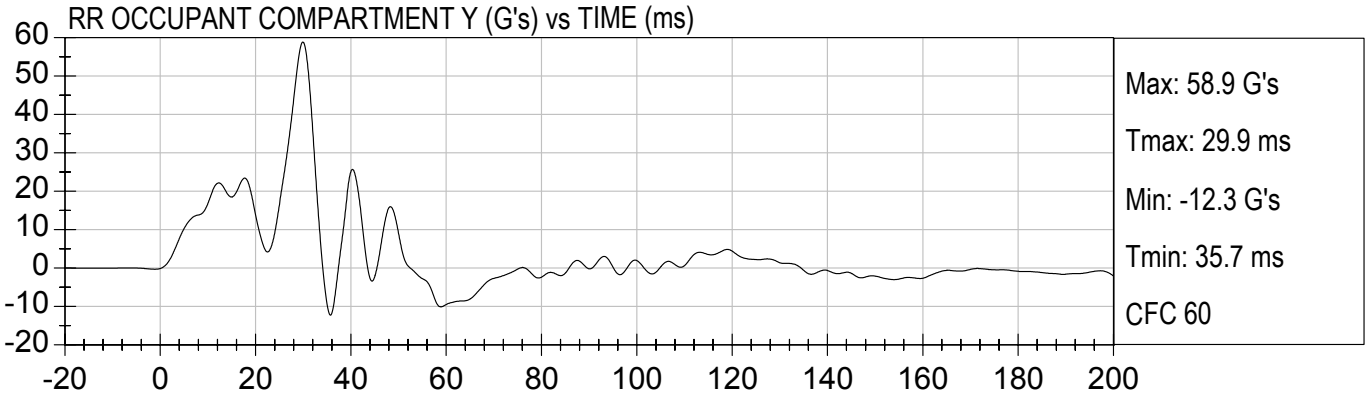
Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)

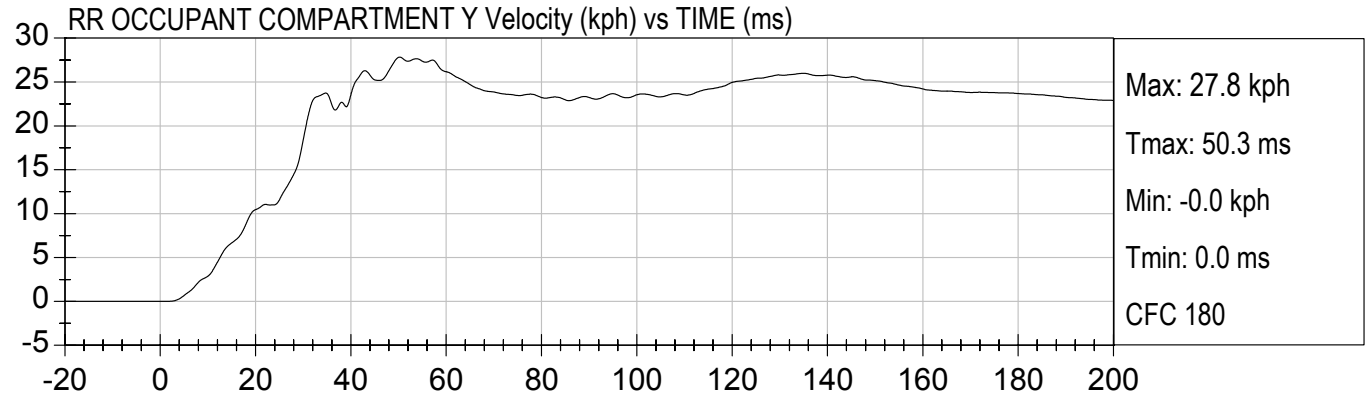






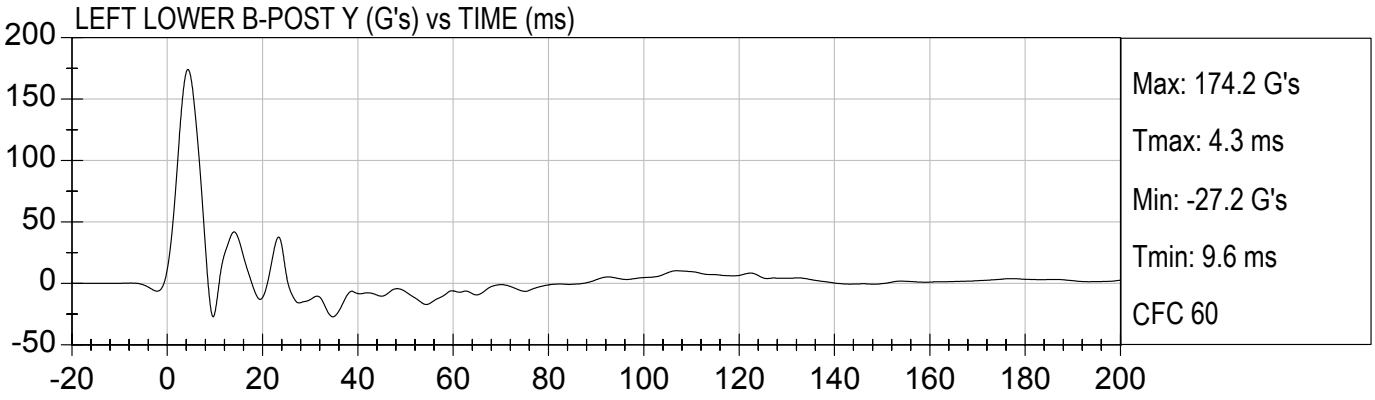


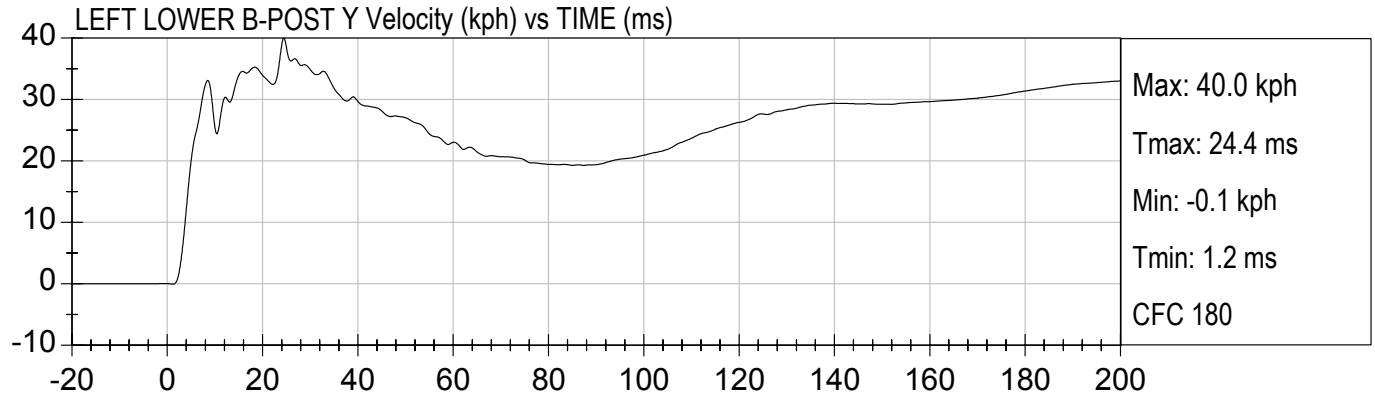

RR OCCUPANT COMPARTMENT Y (G's) vs TIME (ms)
60
50
40
30
20
10
0
-10
-20
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 58.9 G's
Tmax: 29.9 ms
Min: -12.3 G's
Tmin: 35.7 ms
CFC 60

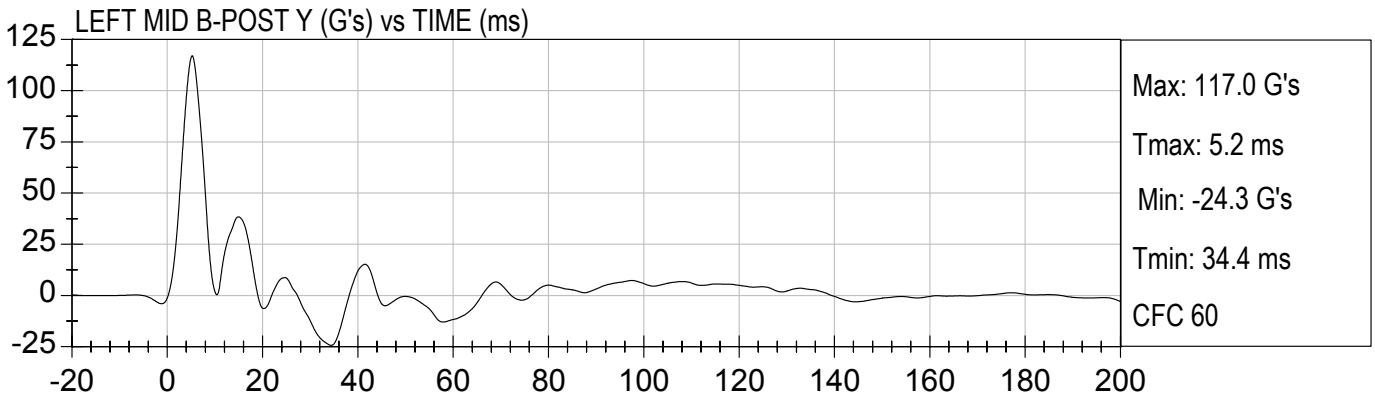

RR OCCUPANT COMPARTMENT Y Velocity (kph) vs TIME (ms)
30
25
20
15
10
5
0
-5
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 27.8 kph
Tmax: 50.3 ms
Min: -0.0 kph
Tmin: 0.0 ms
CFC 180

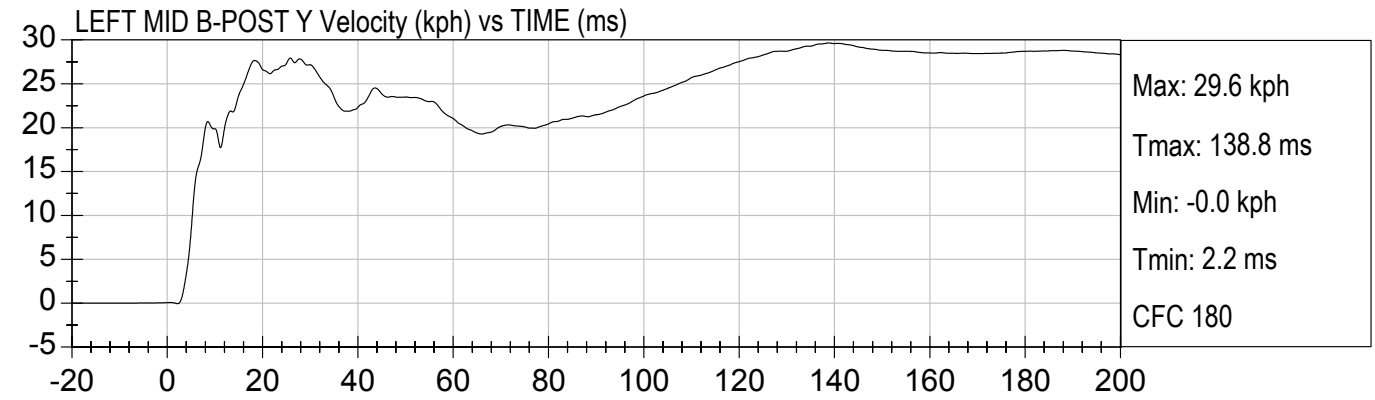
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)



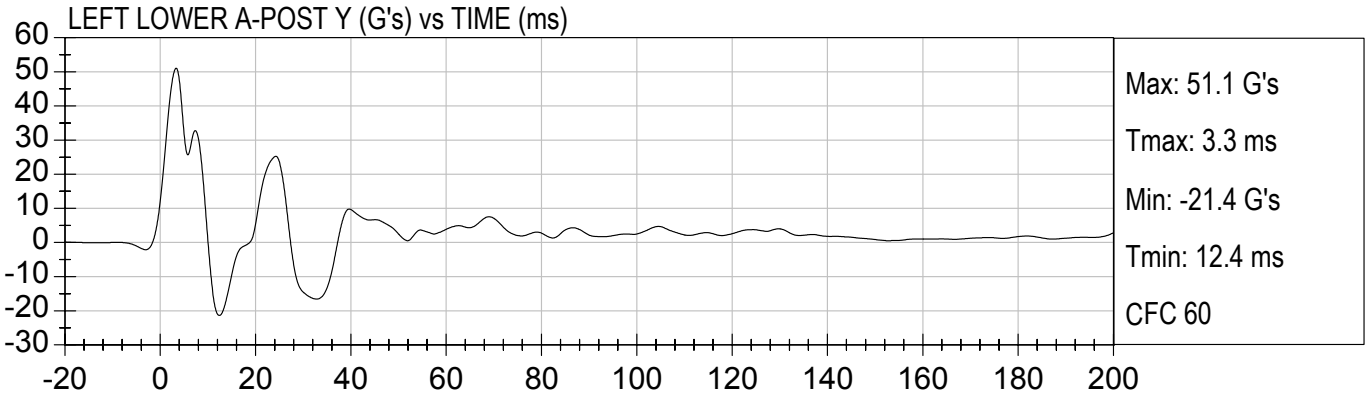


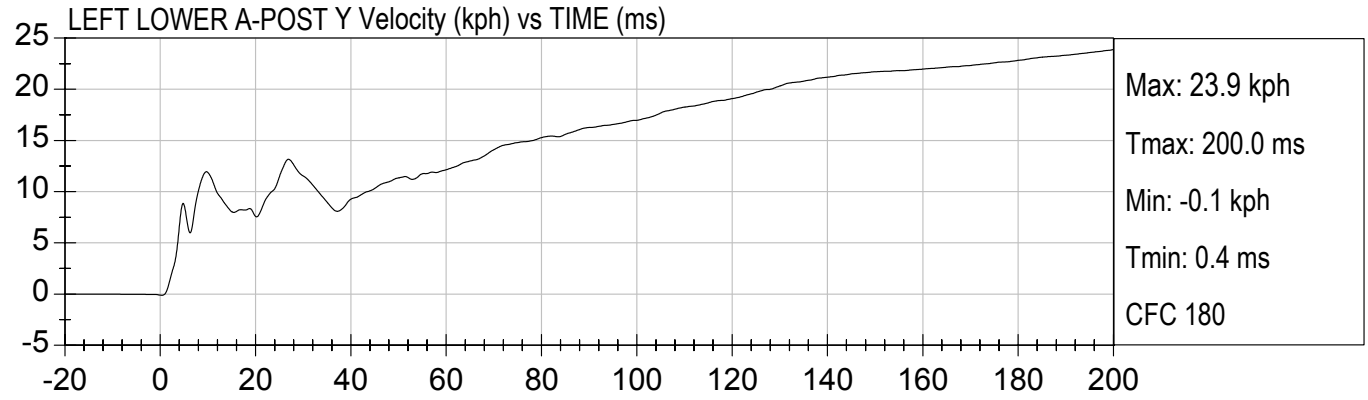


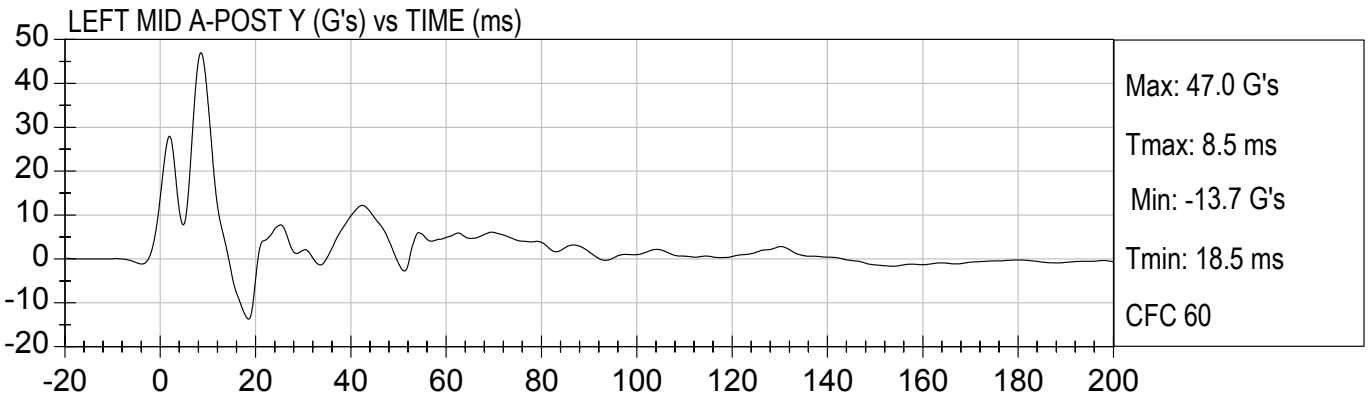


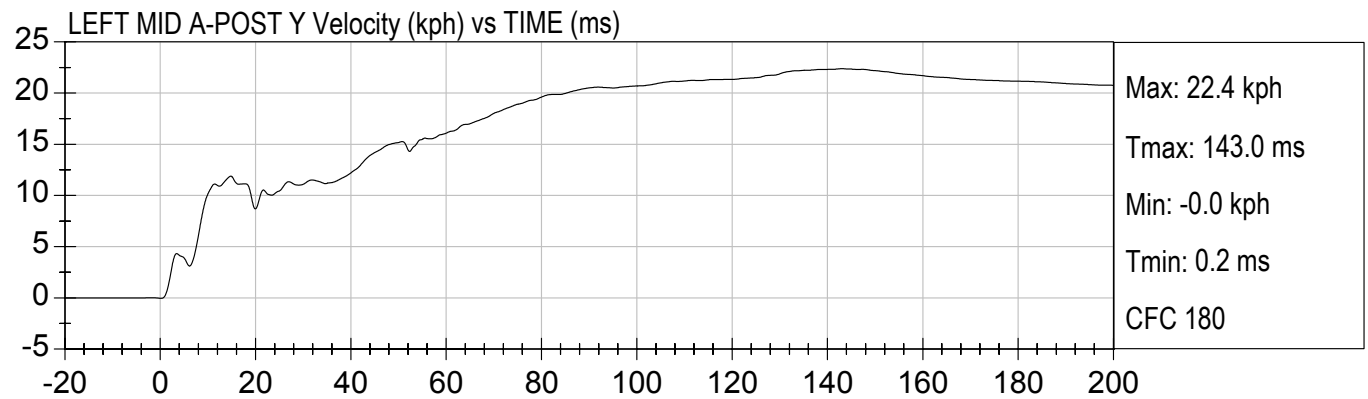
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)



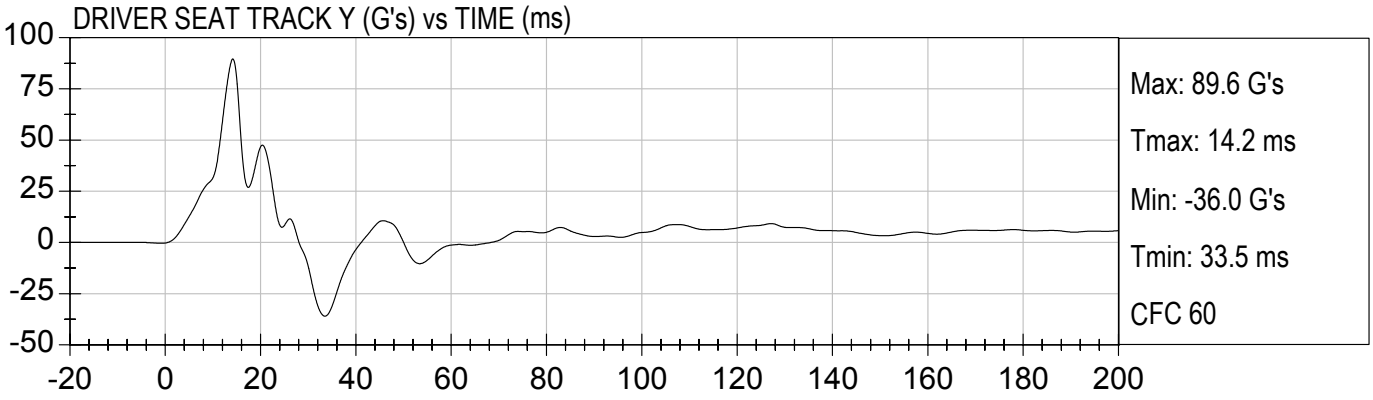


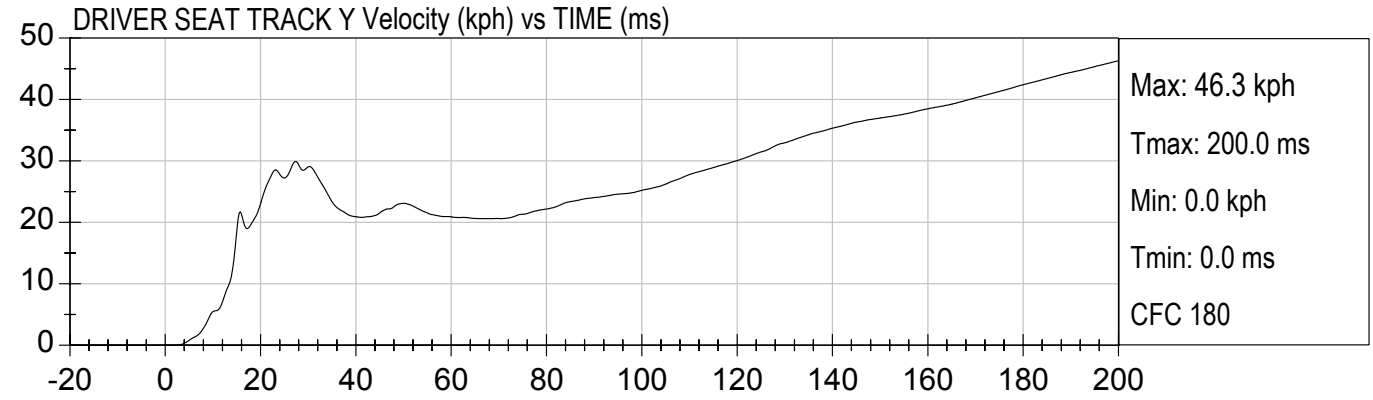


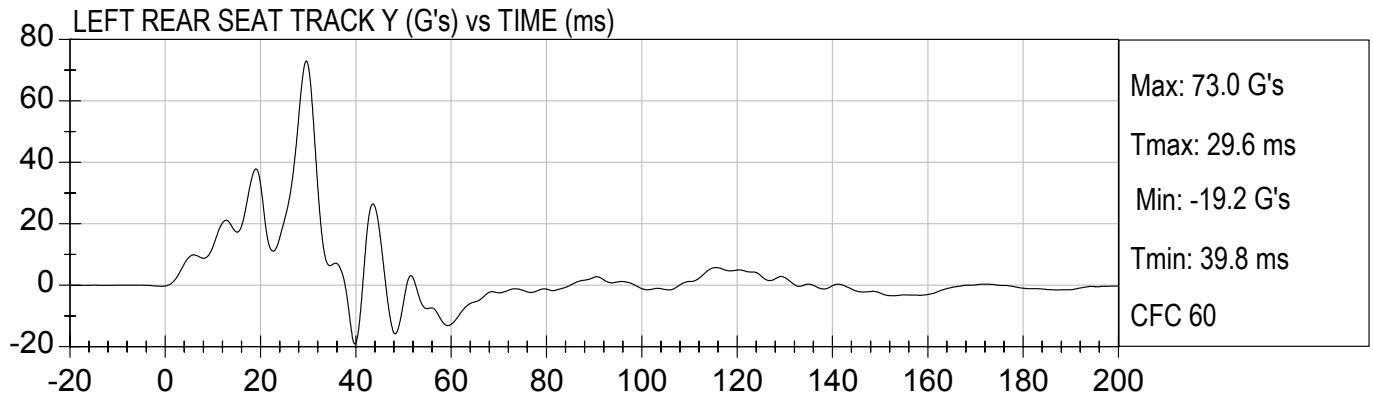


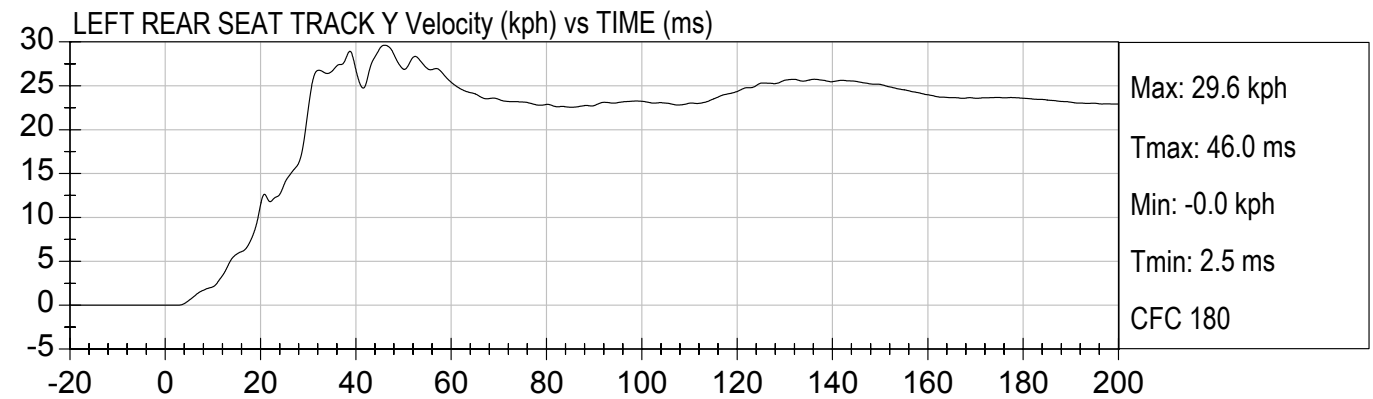
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)



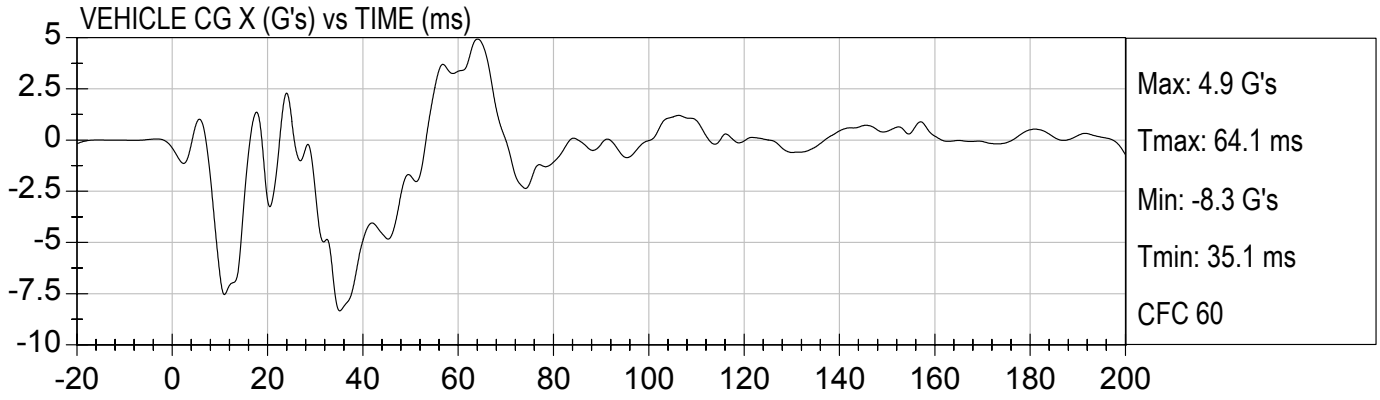


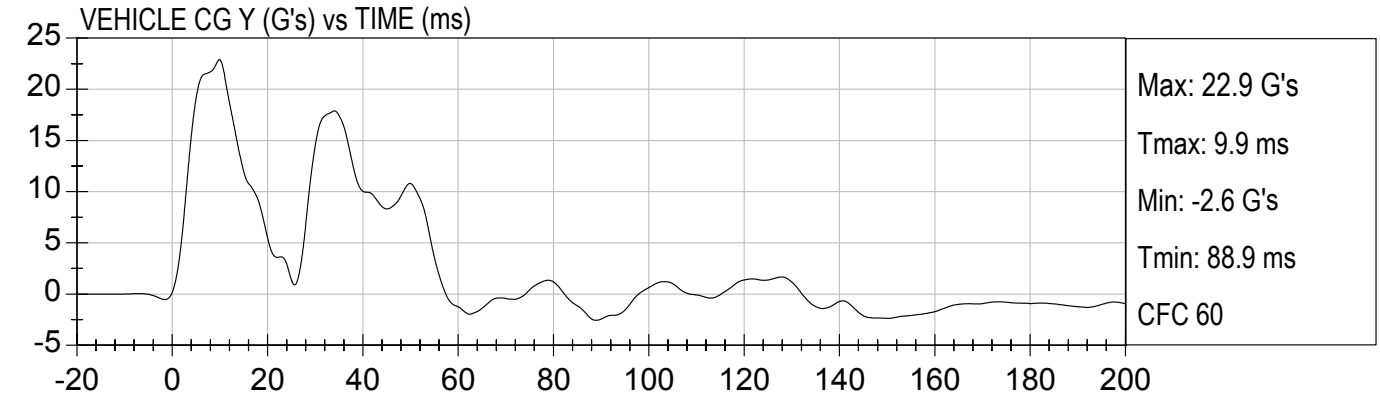


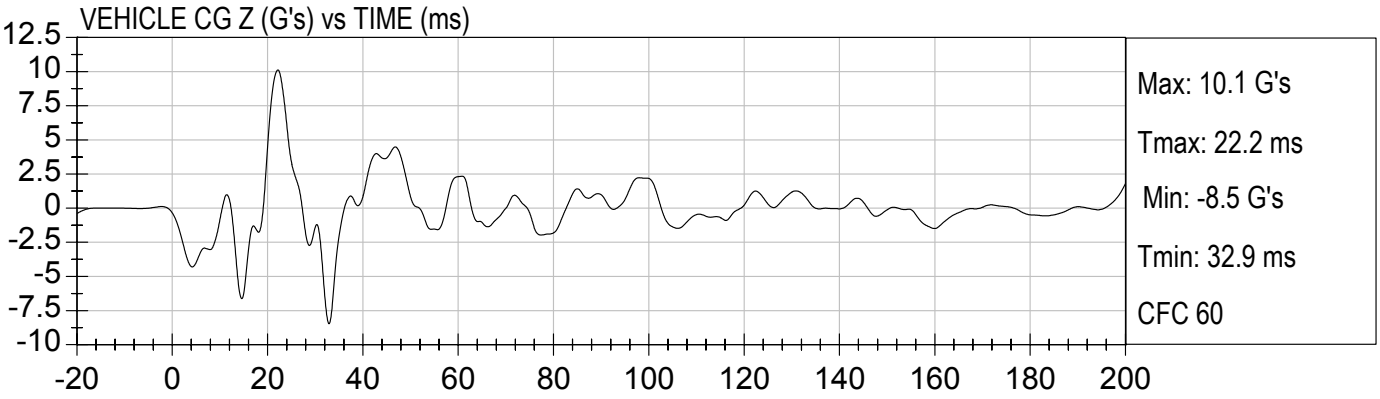


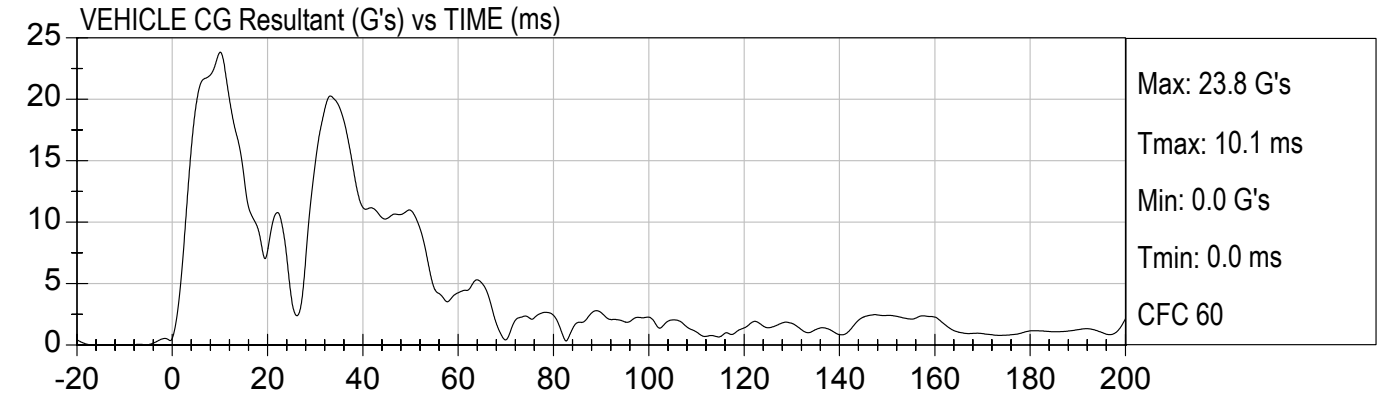
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)



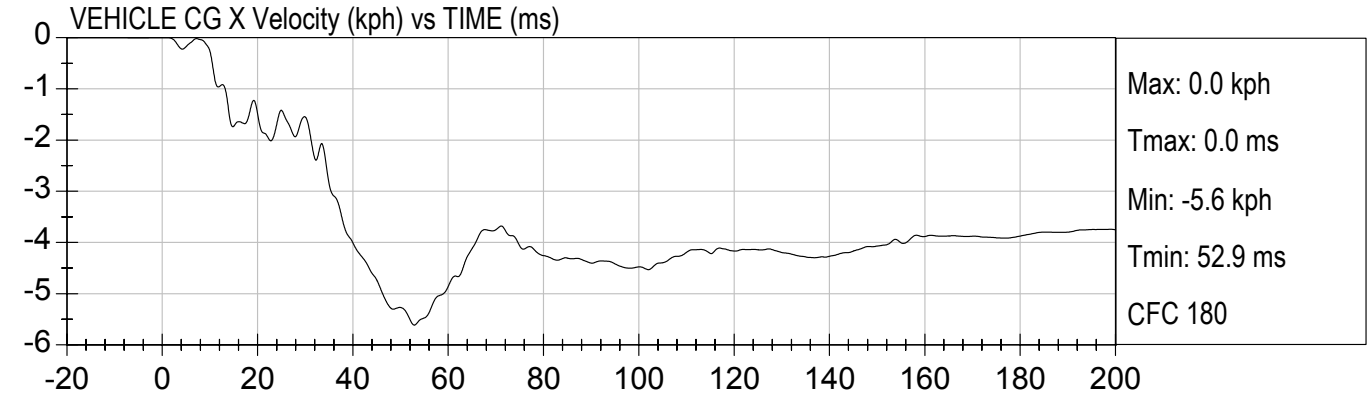


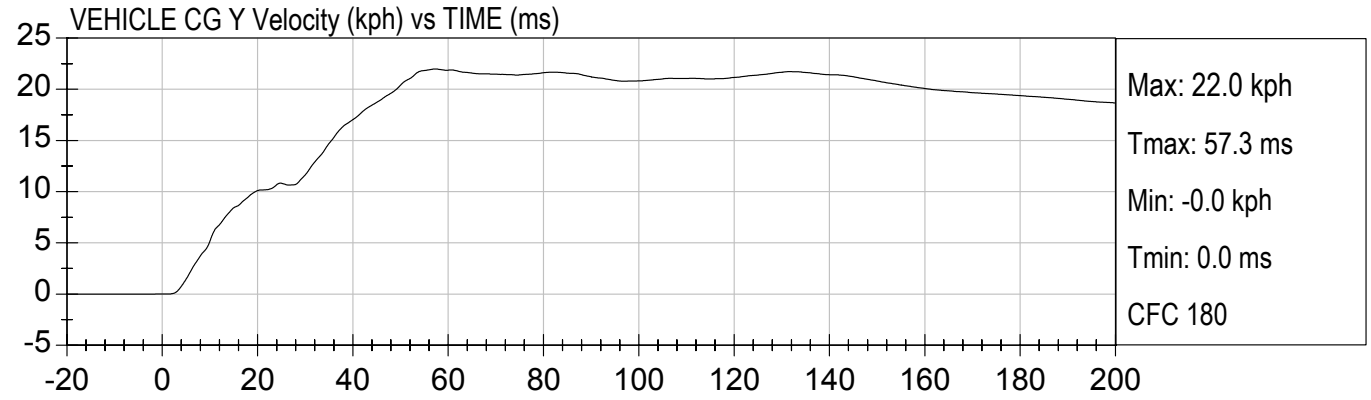


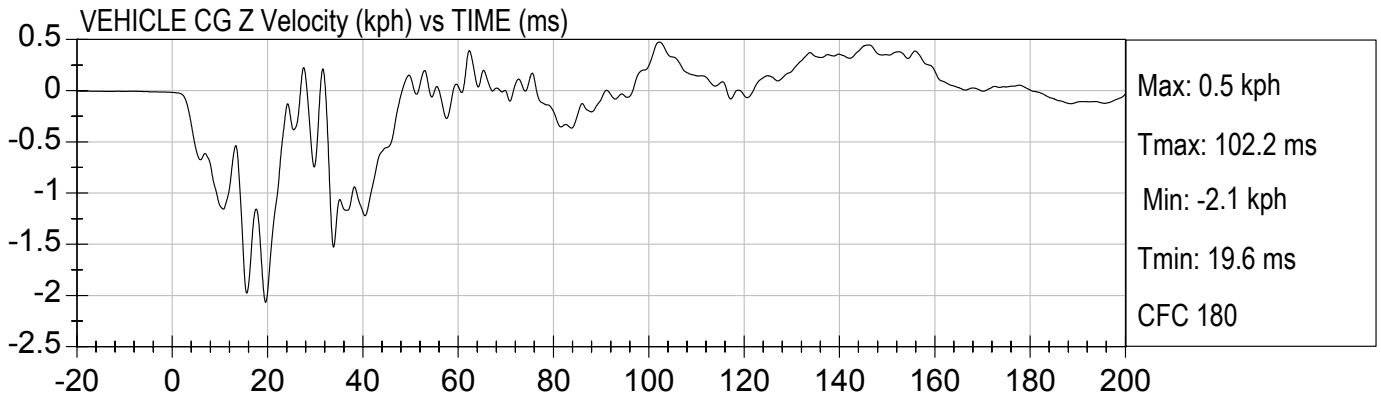


NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)

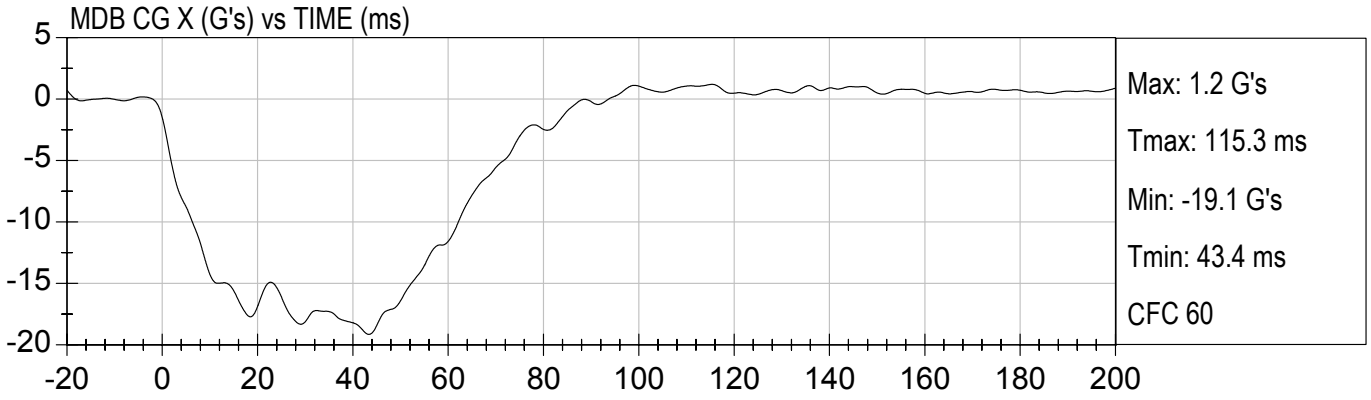


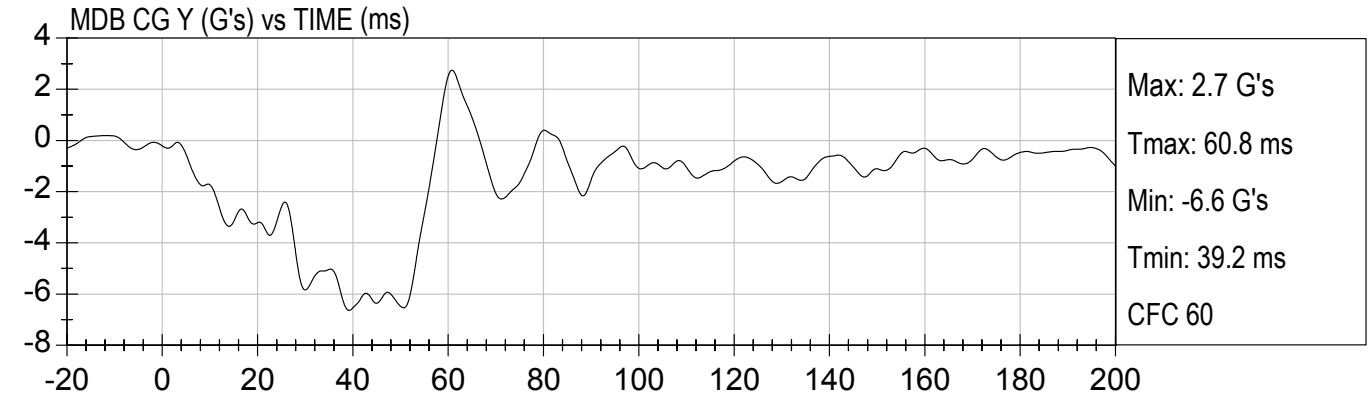


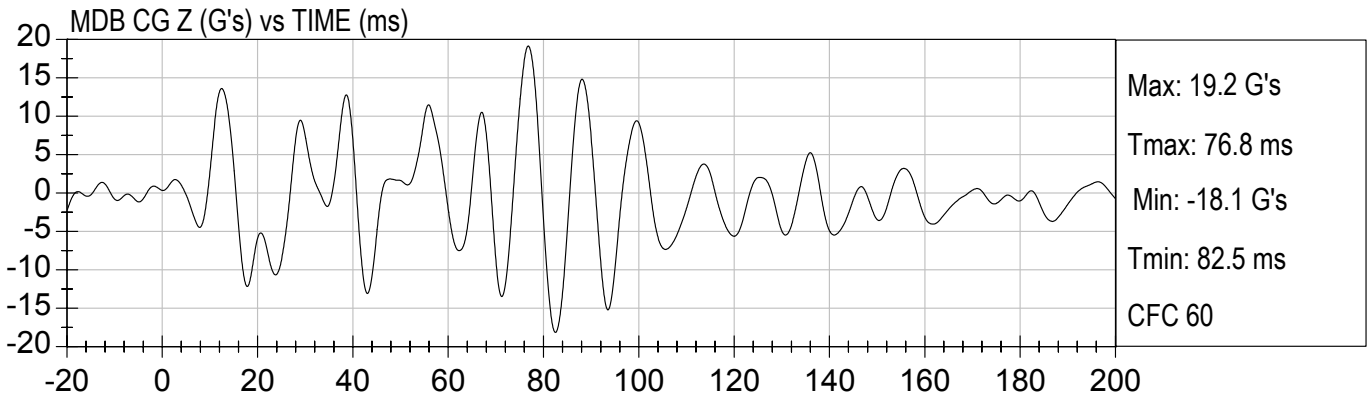


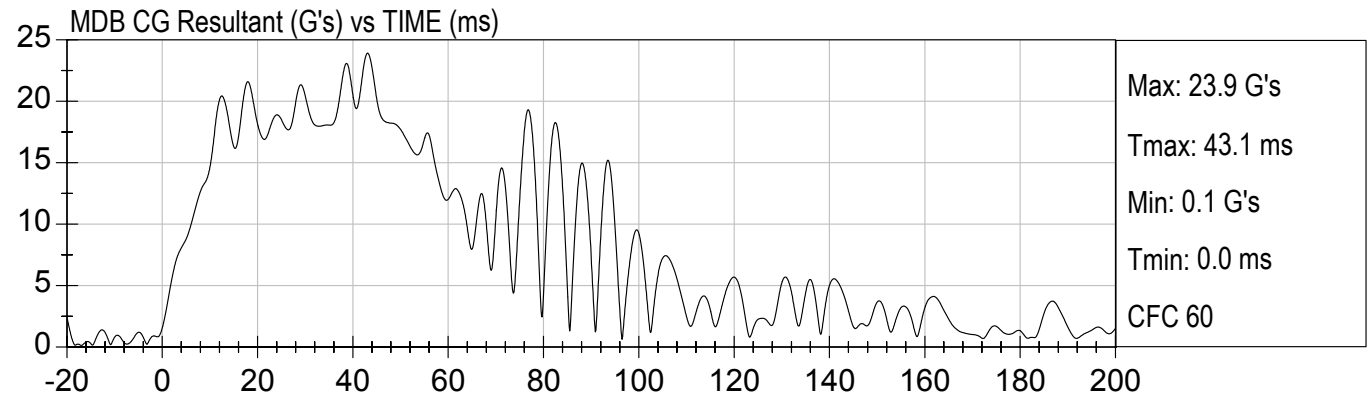
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)



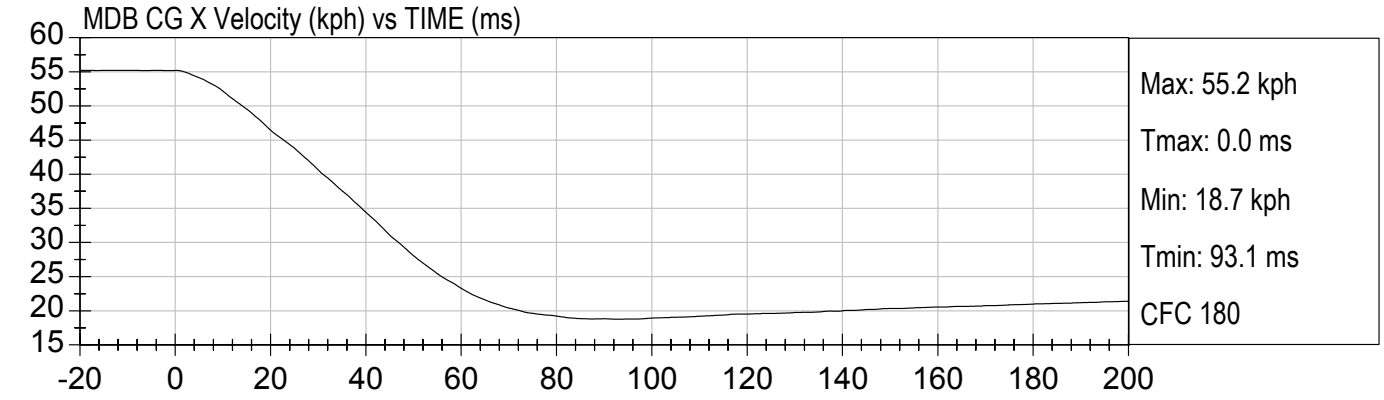


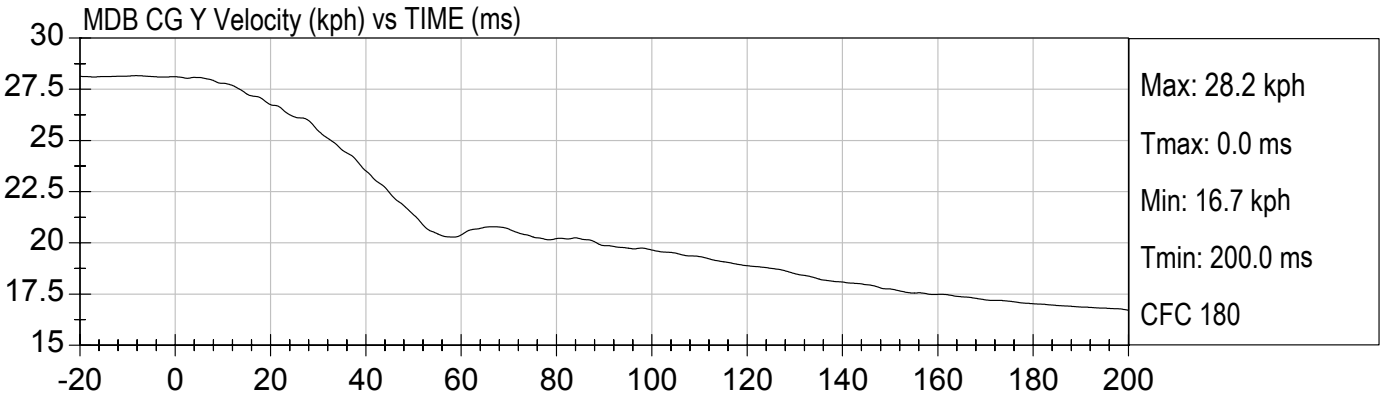


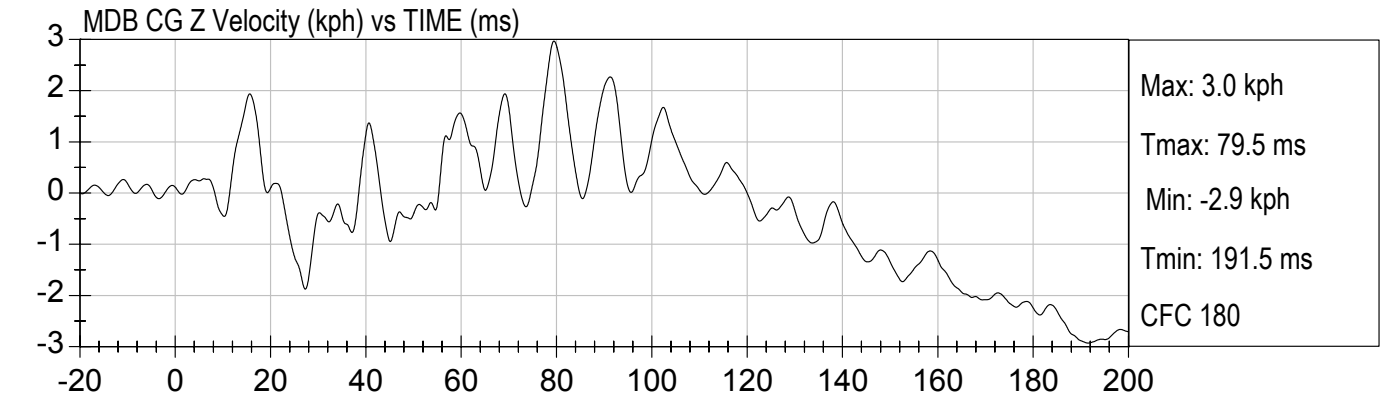


NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)

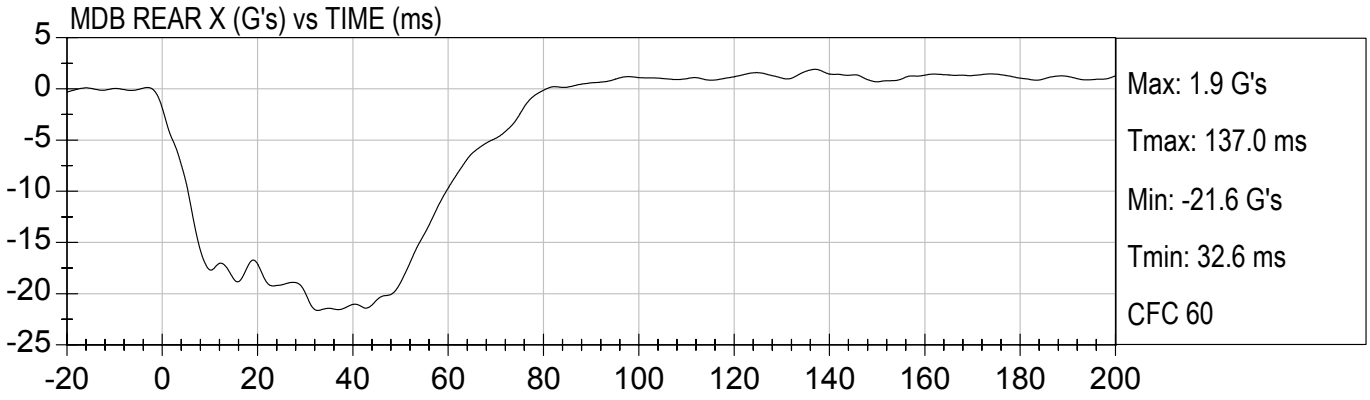


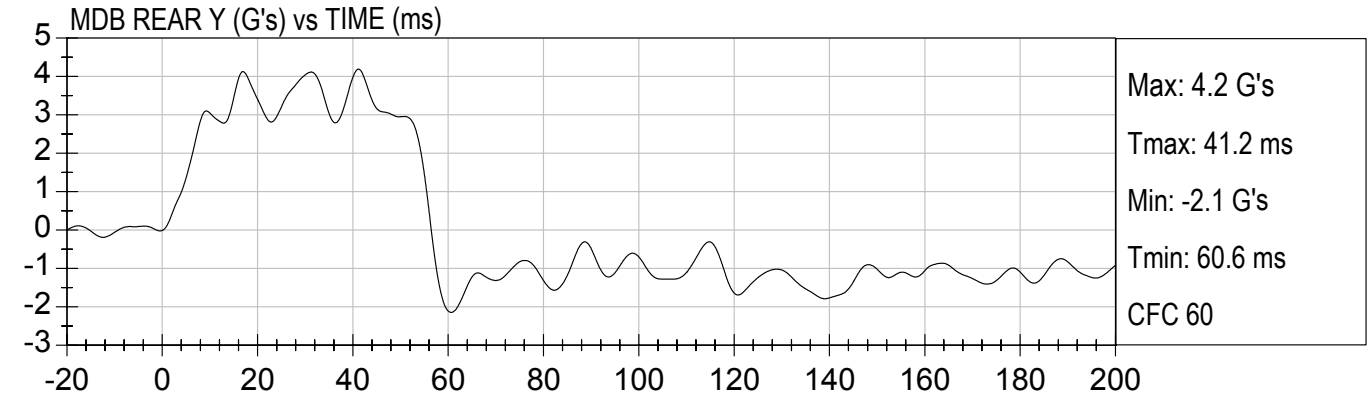


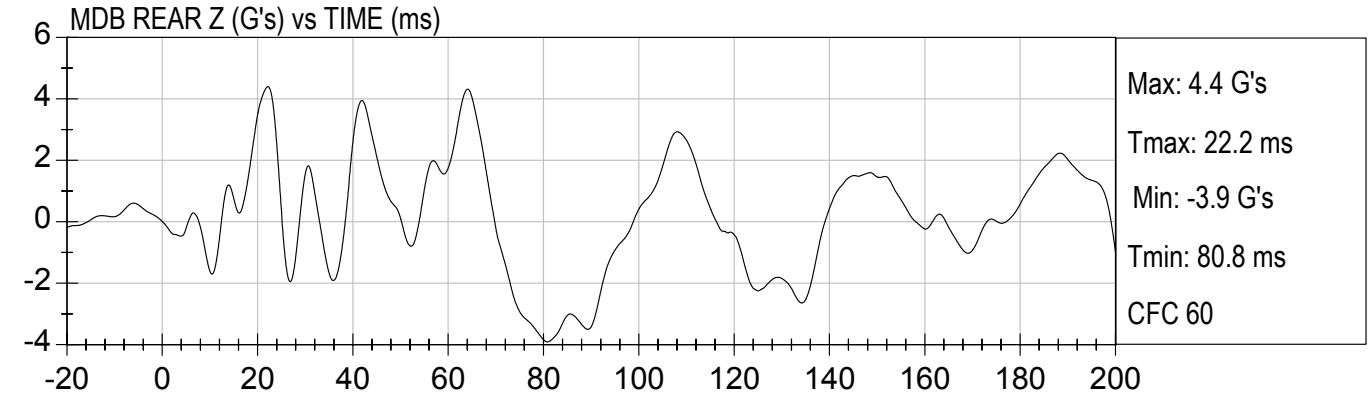


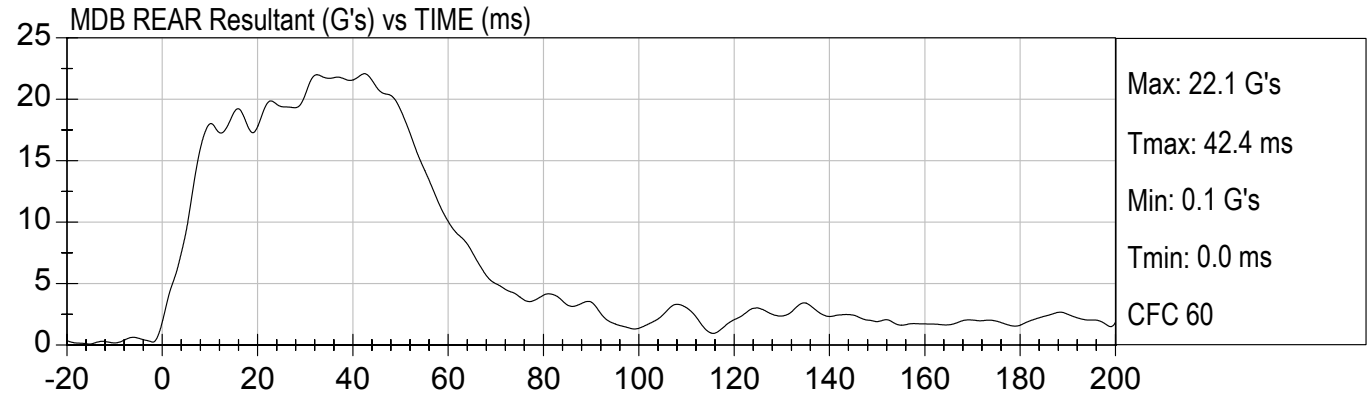
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)



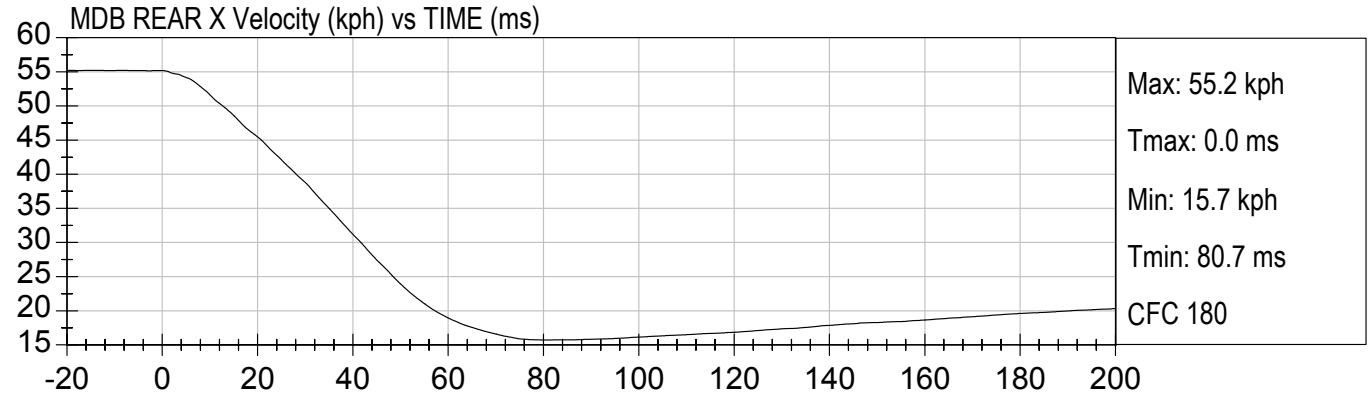


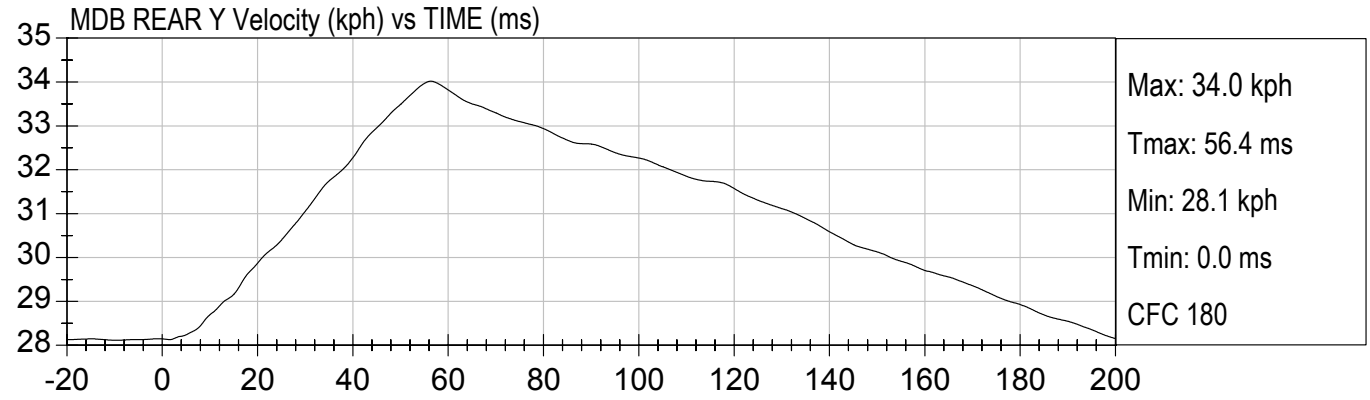


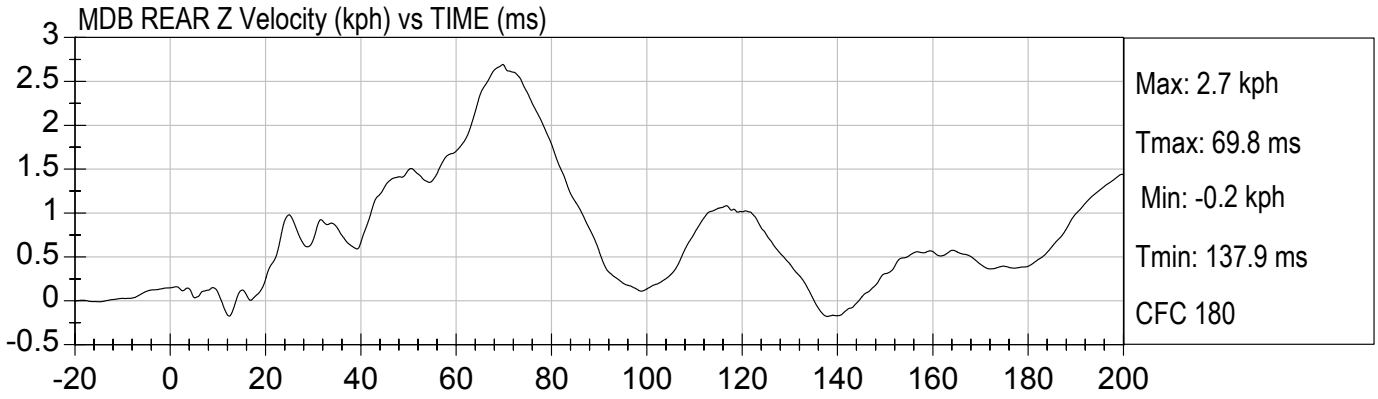


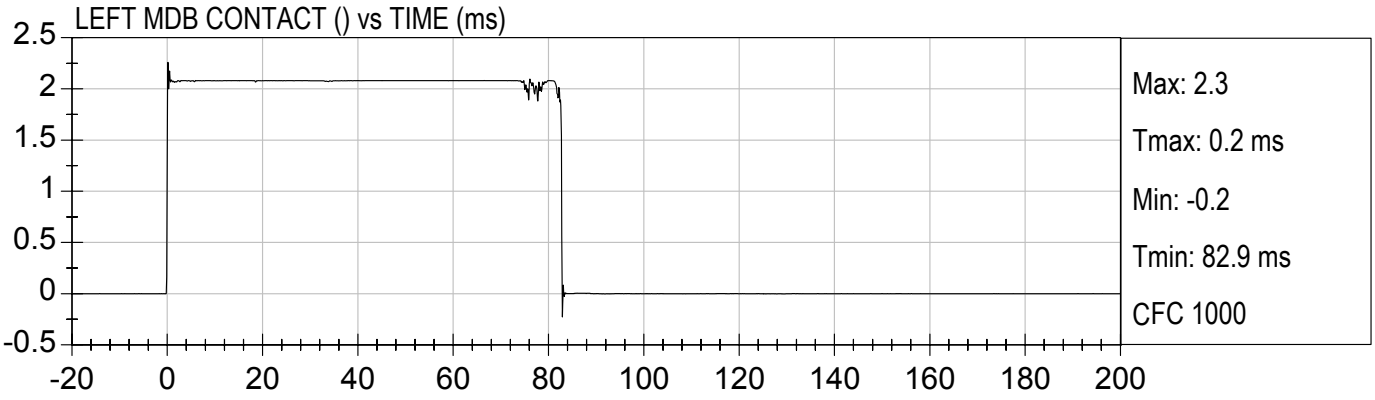
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

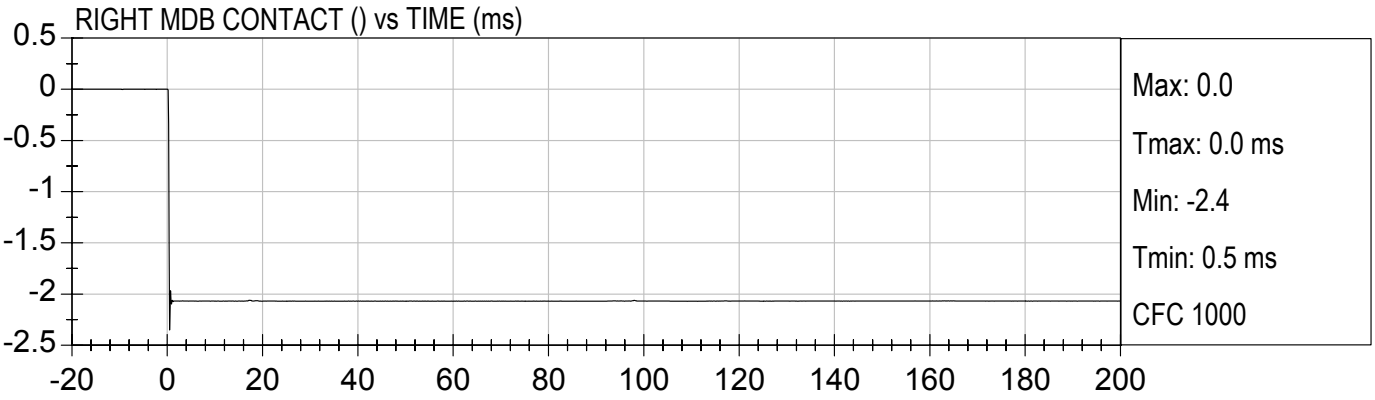
Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)





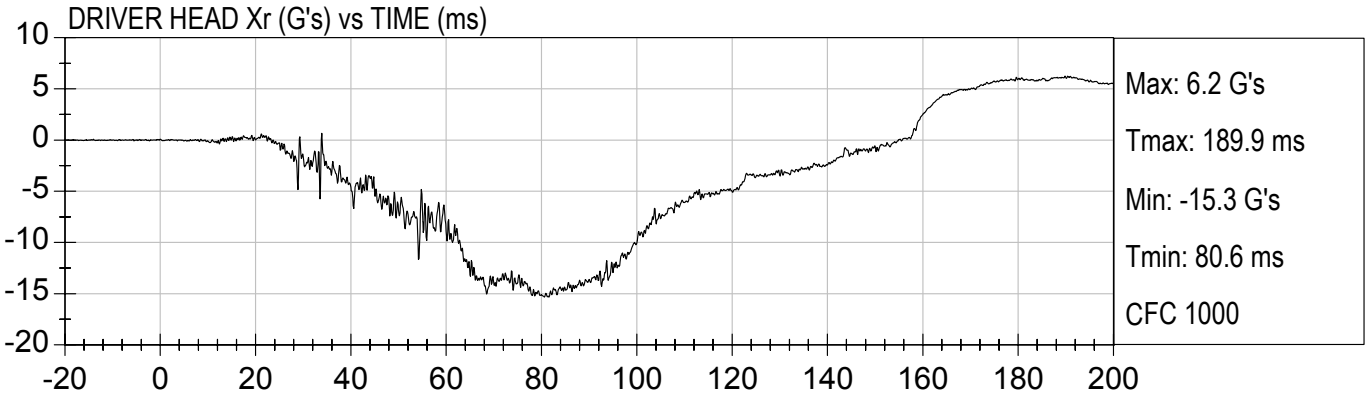


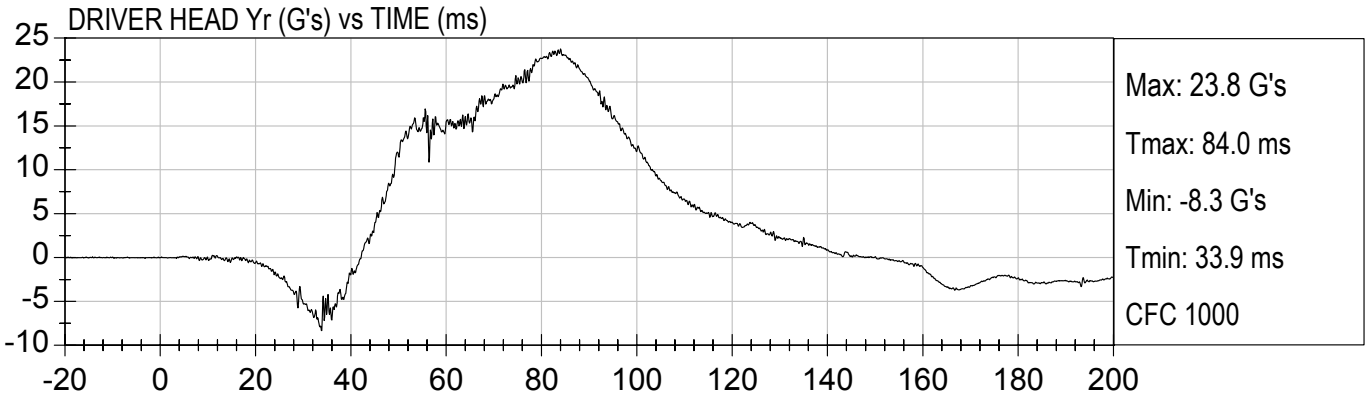

LEFT MDB CONTACT () vs TIME (ms)
2.5
2
1.5
1
0.5
0
-0.5
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 2.3
Tmax: 0.2 ms
Min: -0.2
Tmin: 82.9 ms
CFC 1000

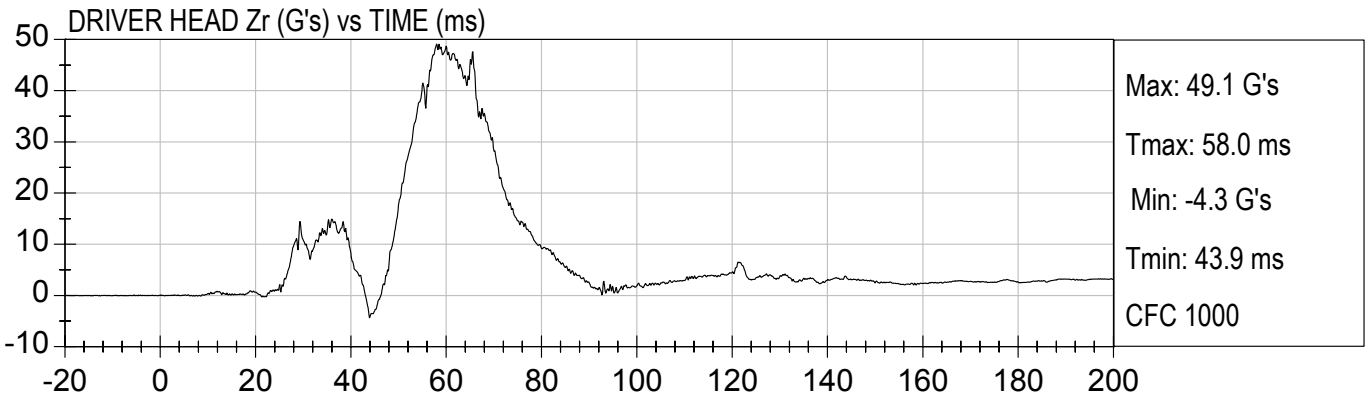

RIGHT MDB CONTACT () vs TIME (ms)
0.5
0
-0.5
-1
-1.5
-2
-2.5
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 0.0
Tmax: 0.0 ms
Min: -2.4
Tmin: 0.5 ms
CFC 1000

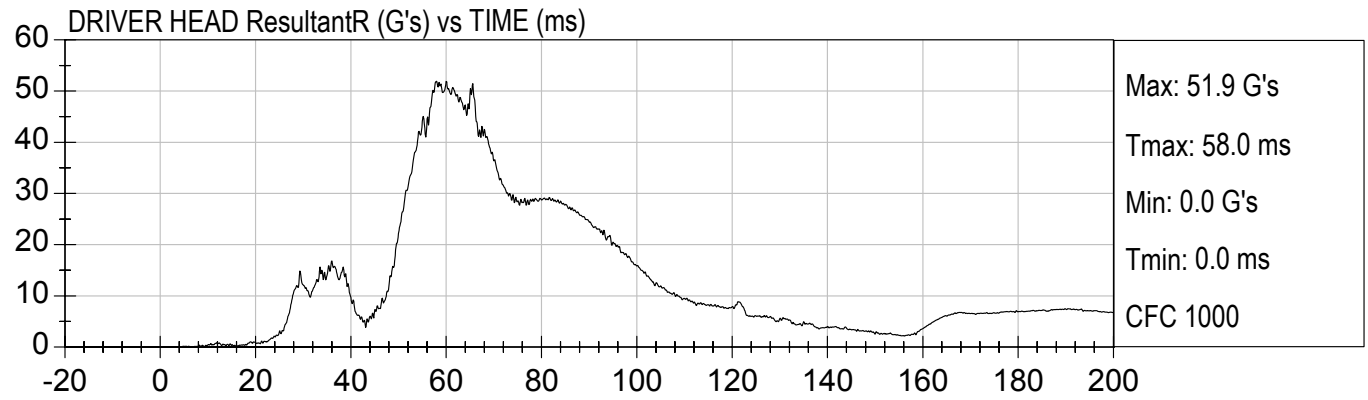
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

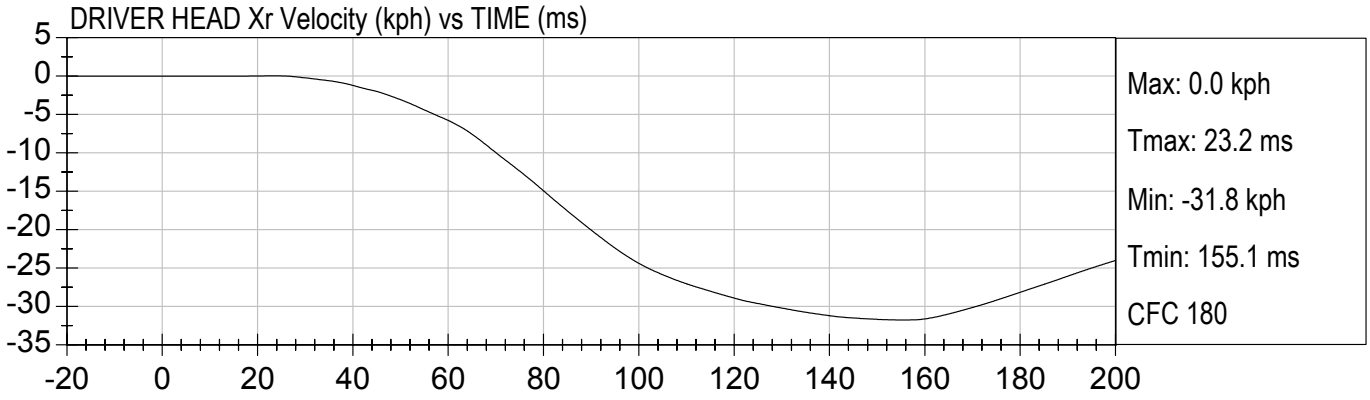
Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)

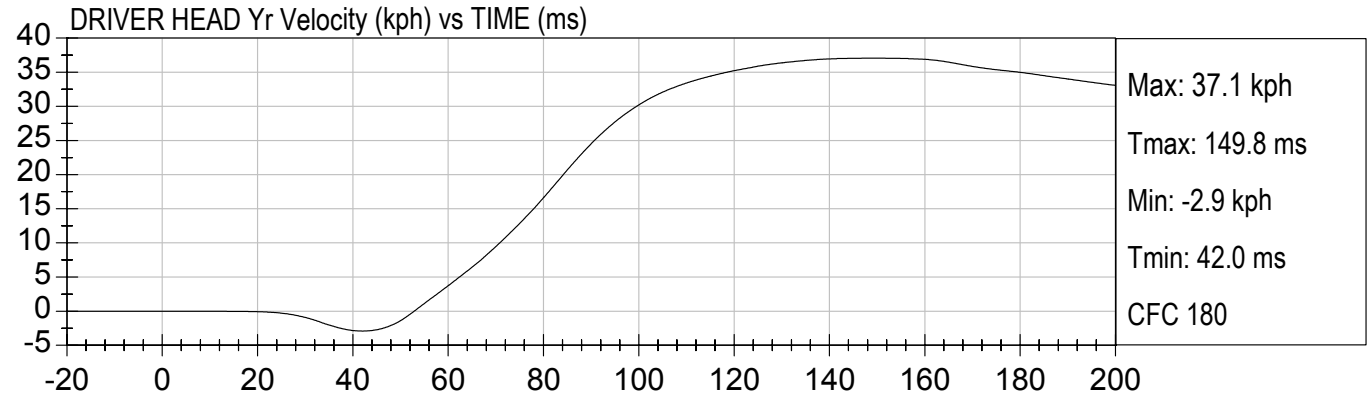


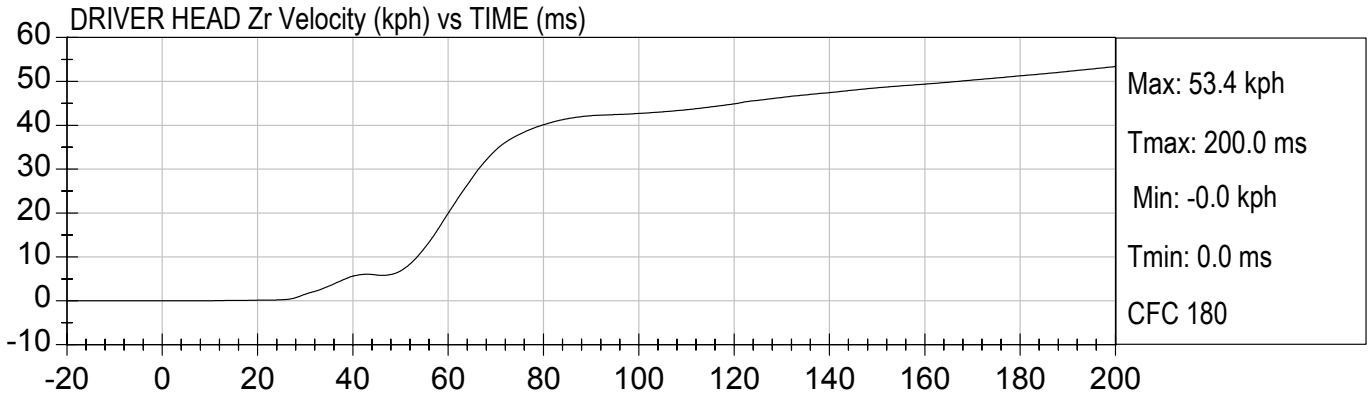






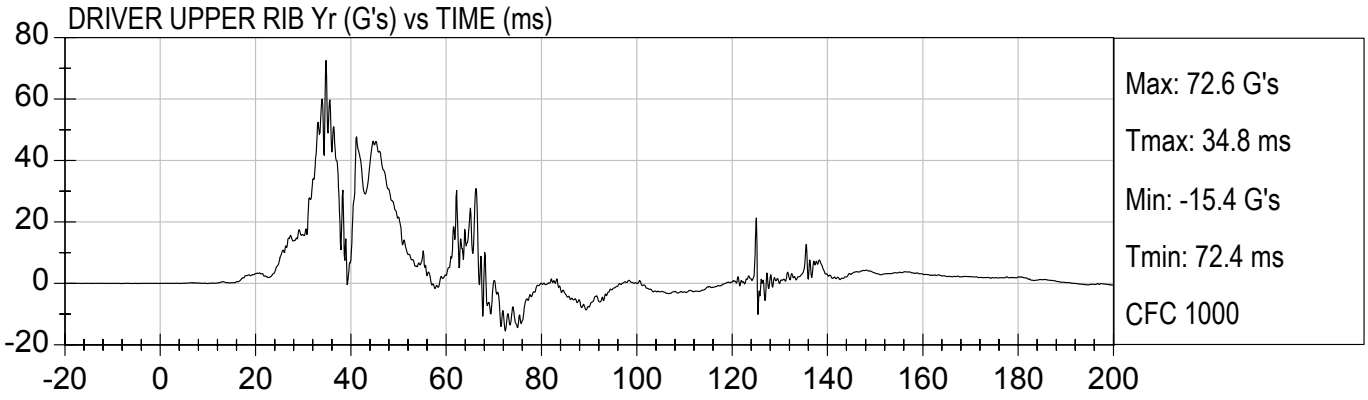

DRIVER HEAD Xr Velocity (kph) vs TIME (ms)
5
0
-5
-10
-15
-20
-25
-30
-35
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 0.0 kph
Tmax: 23.2 ms
Min: -31.8 kph
Tmin: 155.1 ms
CFC 180

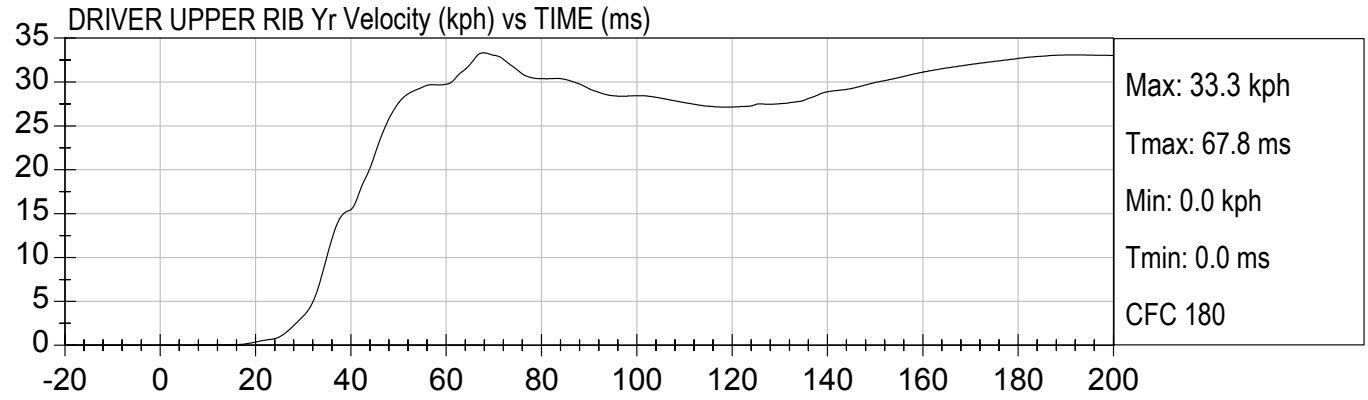

DRIVER HEAD Yr Velocity (kph) vs TIME (ms)
40
35
30
25
20
15
10
5
0
-5
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 37.1 kph
Tmax: 149.8 ms
Min: -2.9 kph
Tmin: 42.0 ms
CFC 180

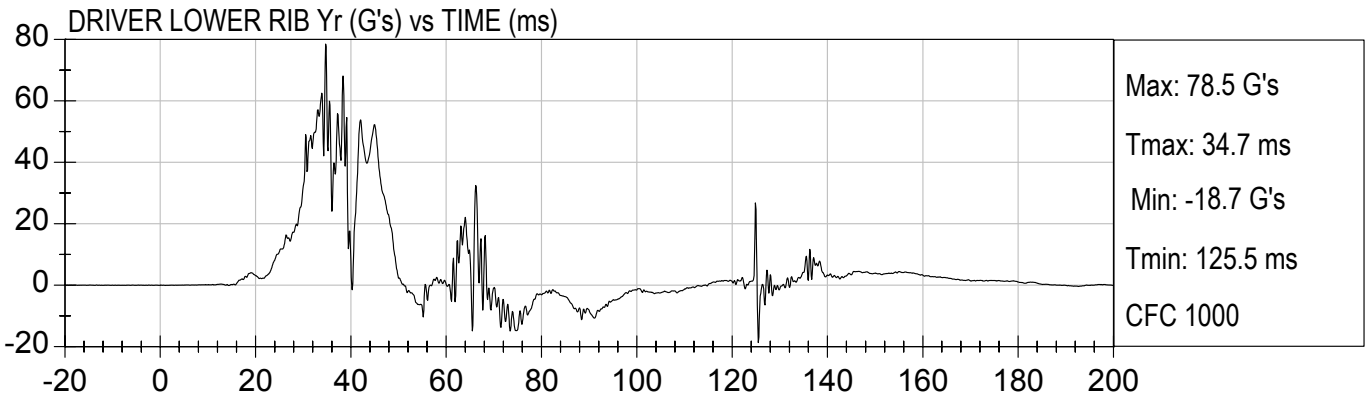

DRIVER HEAD Zr Velocity (kph) vs TIME (ms)
60
50
40
30
20
10
0
-10
-20
0
20
40
60
80
100
120
140
160
180
200
Max: 53.4 kph
Tmax: 200.0 ms
Min: -0.0 kph
Tmin: 0.0 ms
CFC 180

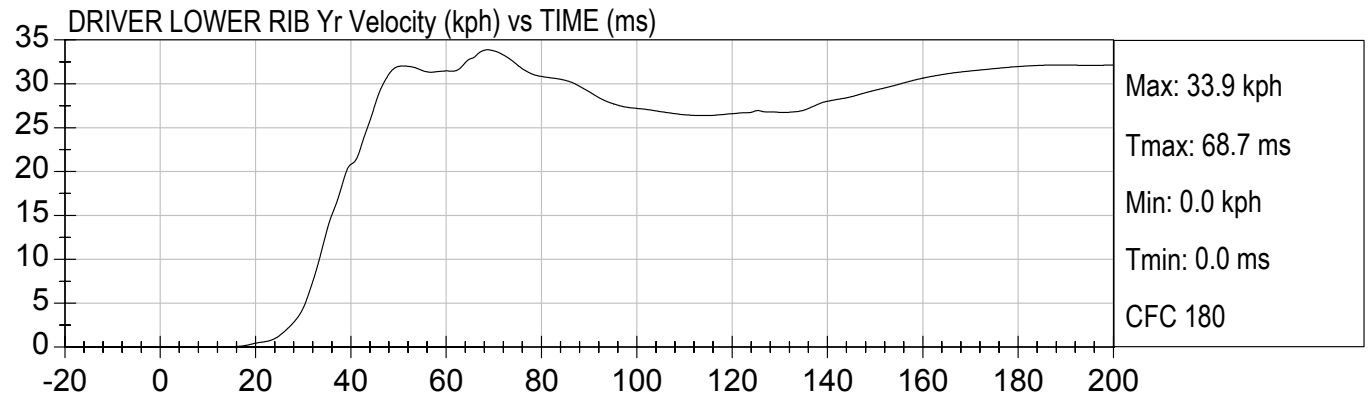
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)



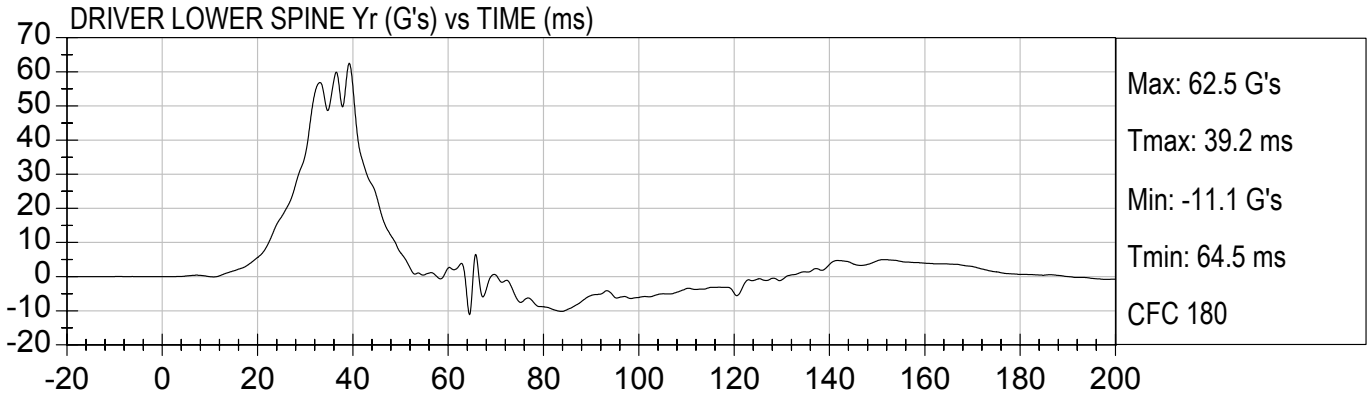


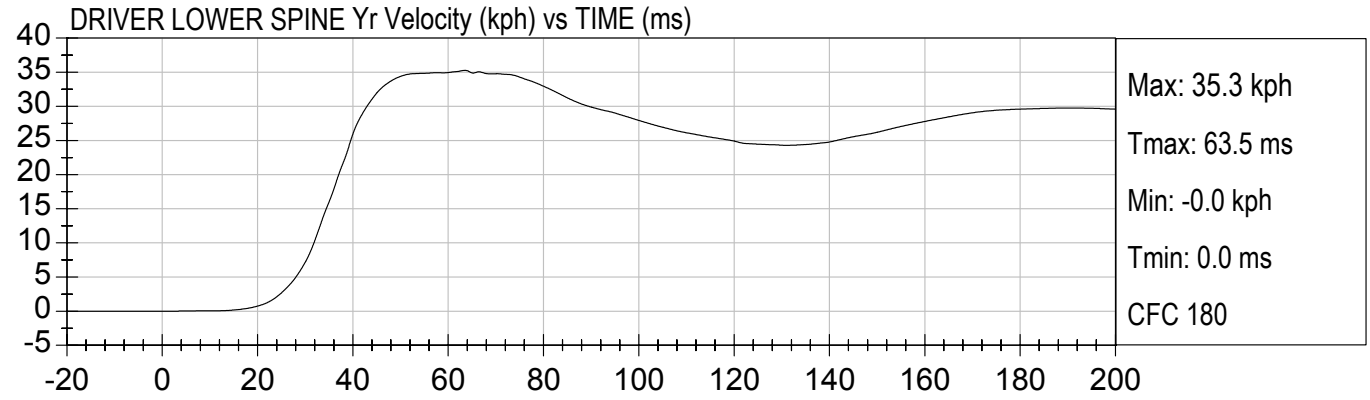


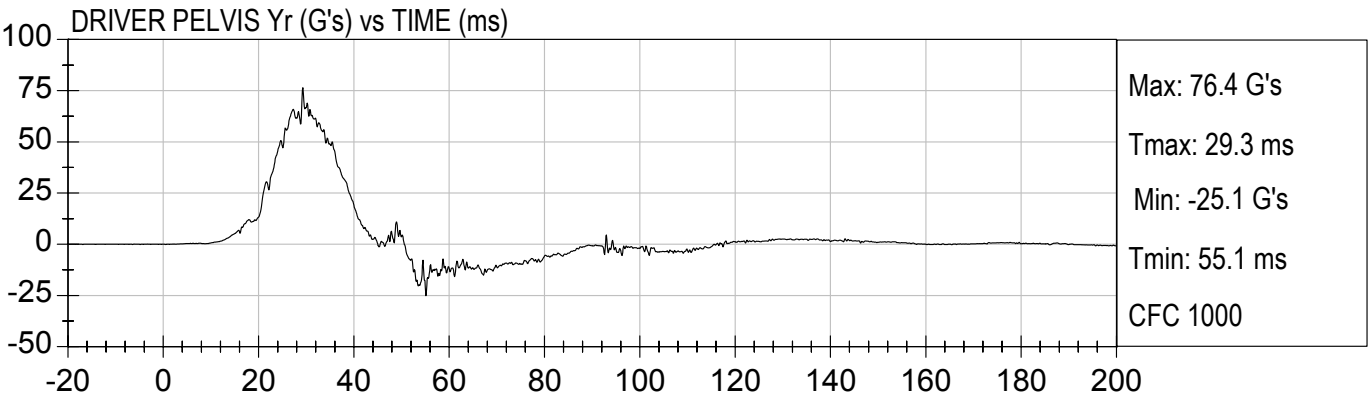


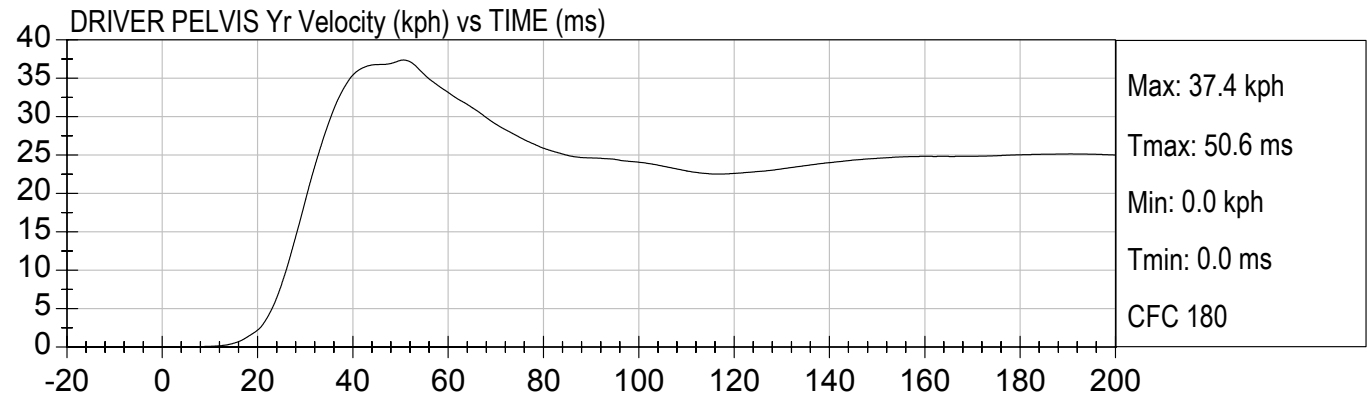
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)



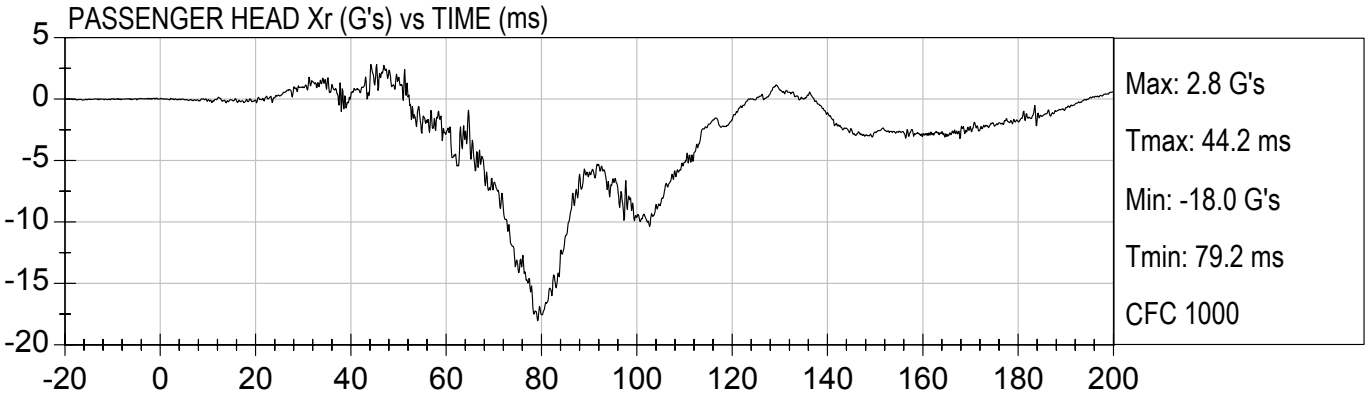


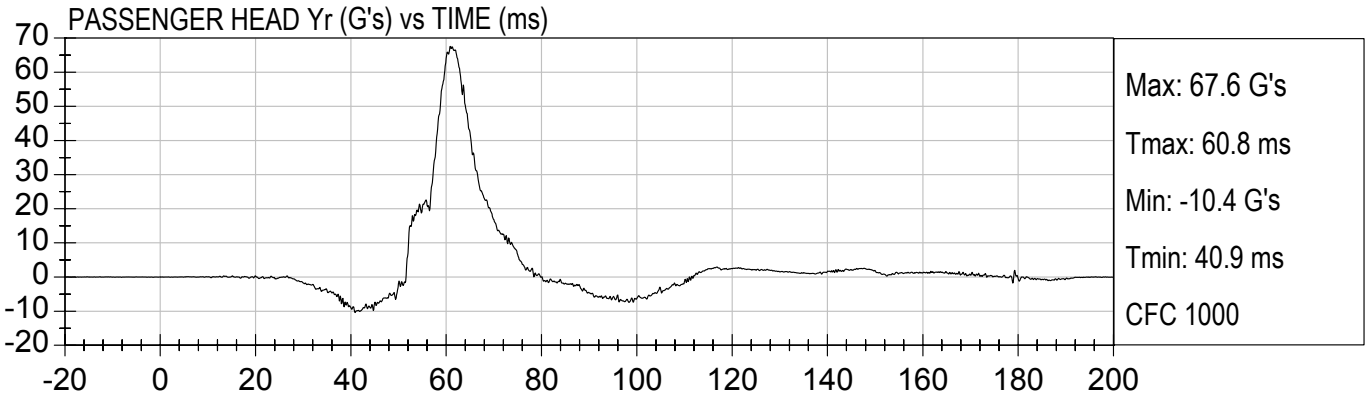


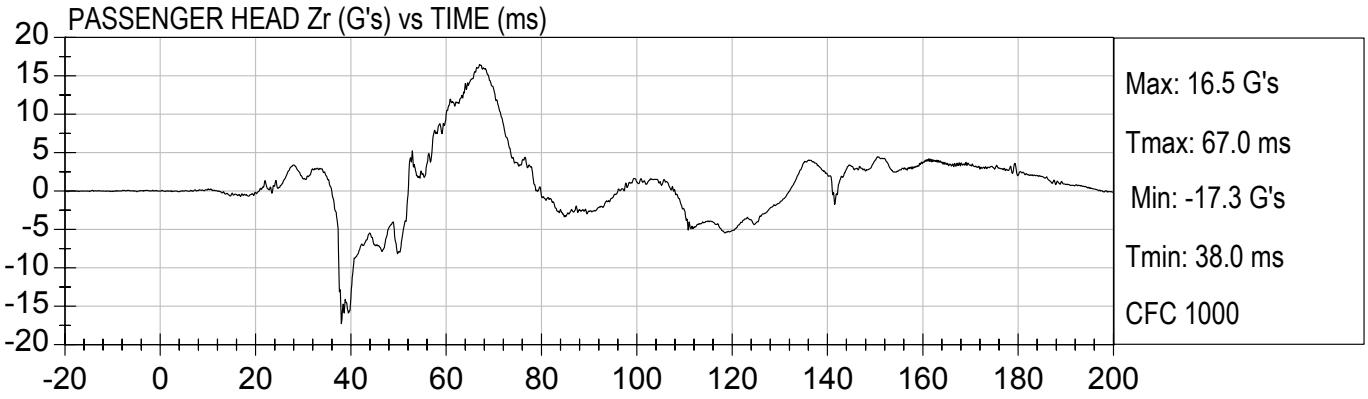


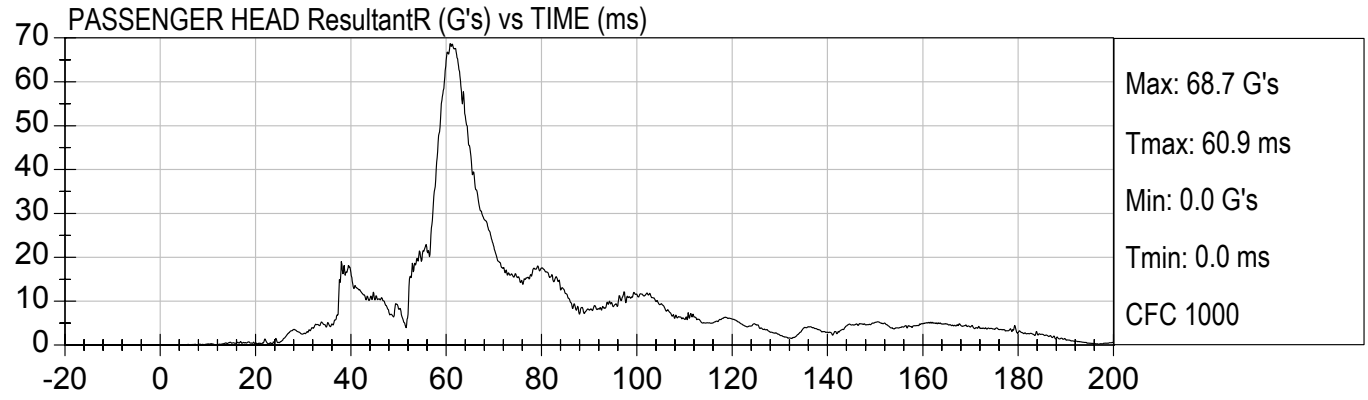
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

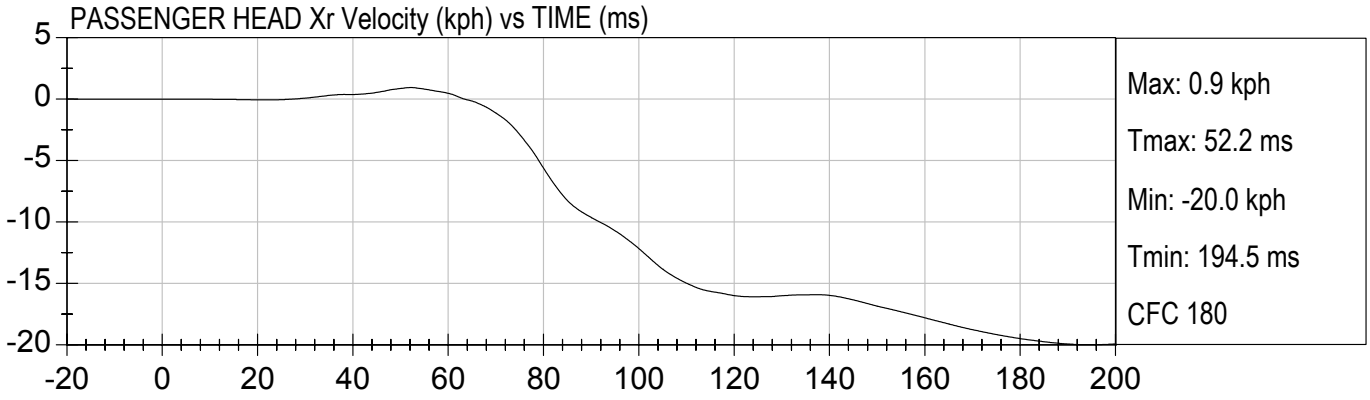
Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)

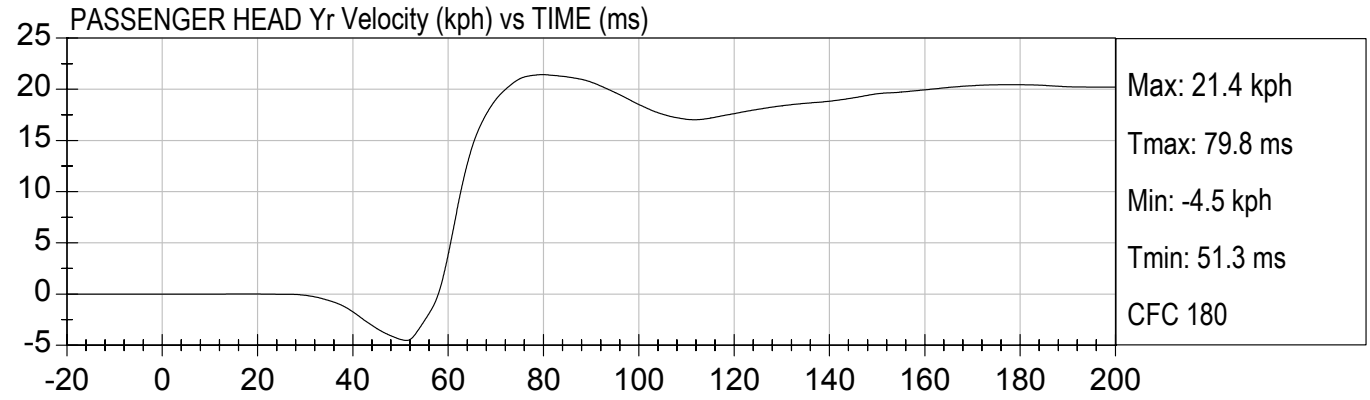


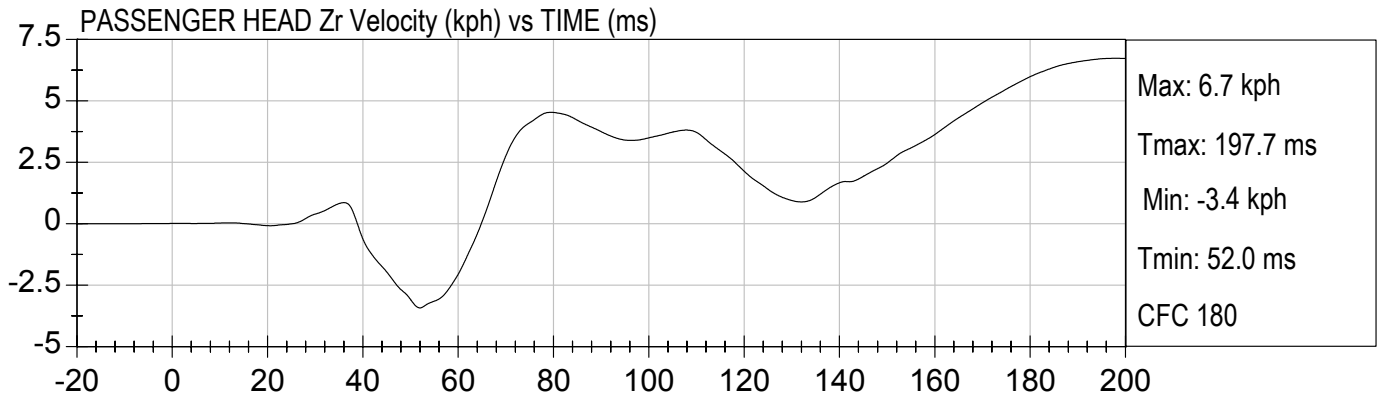







PASSENGER HEAD Xr Velocity (kph) vs TIME (ms)
5
0
-5
-10
-15
-20
-20 0 20 40 60 80 100 120 140 160 180 200
Max: 0.9 kph
Tmax: 52.2 ms
Min: -20.0 kph
Tmin: 194.5 ms
CFC 180

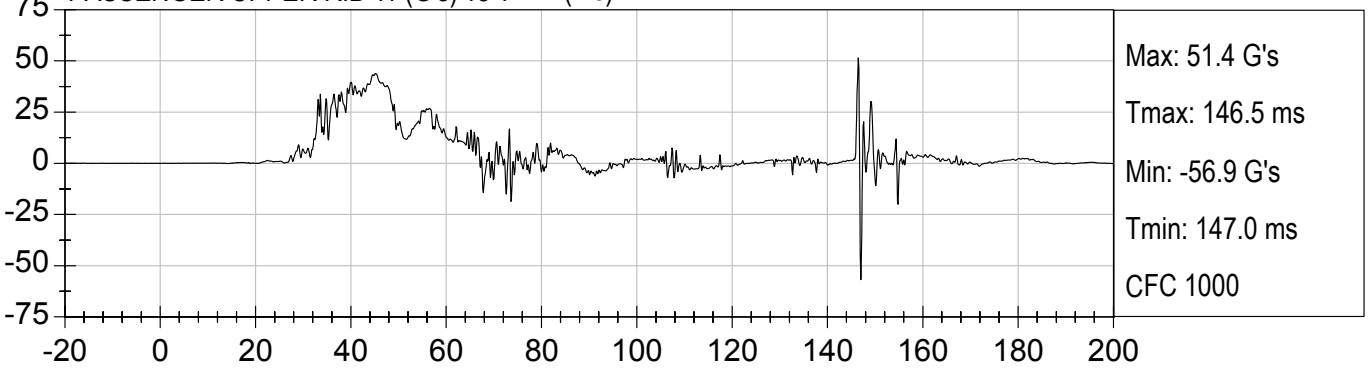

PASSENGER HEAD Yr Velocity (kph) vs TIME (ms)
25
20
15
10
5
0
-5
-20 0 20 40 60 80 100 120 140 160 180 200
Max: 21.4 kph
Tmax: 79.8 ms
Min: -4.5 kph
Tmin: 51.3 ms
CFC 180


PASSENGER HEAD Zr Velocity (kph) vs TIME (ms)
7.5
5
2.5
0
-2.5
-5
-20 0 20 40 60 80 100 120 140 160 180 200
Max: 6.7 kph
Tmax: 197.7 ms
Min: -3.4 kph
Tmin: 52.0 ms
CFC 180

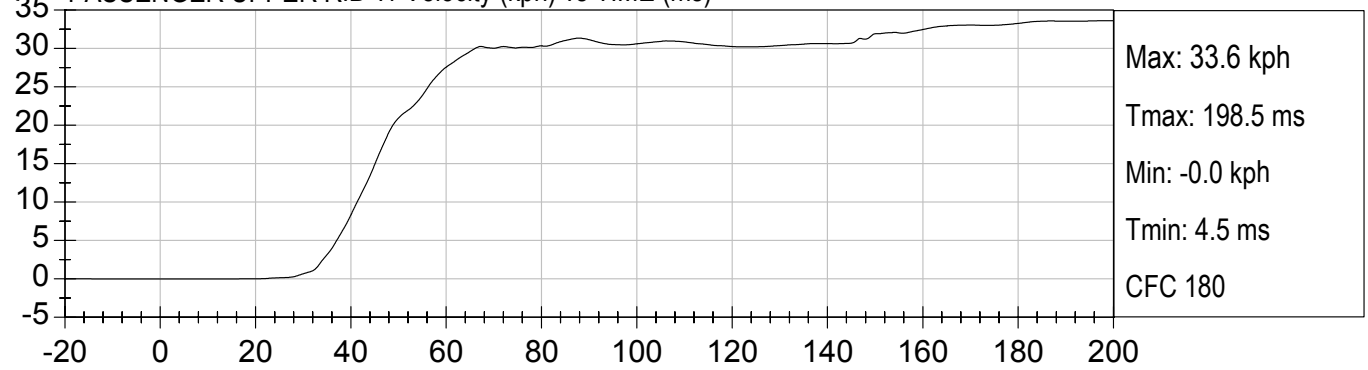
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)

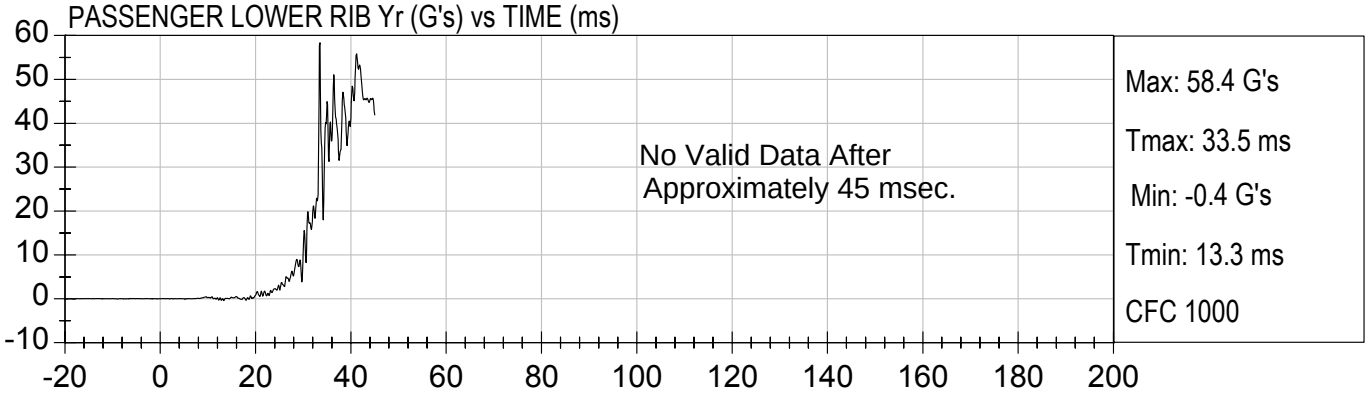
PASSENGER UPPER RIB Yr (G's) vs TIME (ms)



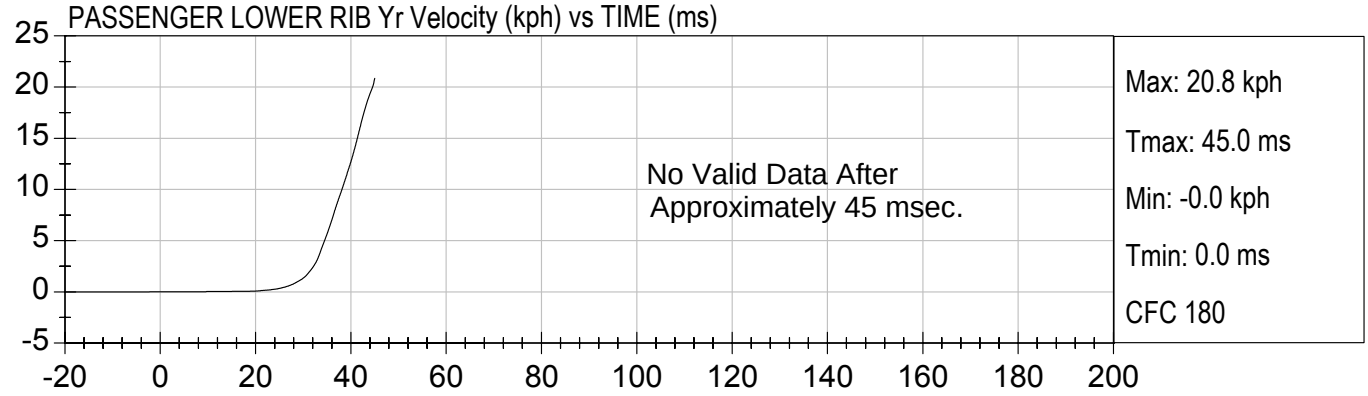
PASSENGER UPPER RIB Yr Velocity (kph) vs TIME (ms)



PASSENGER LOWER RIB Yr (G's) vs TIME (ms)



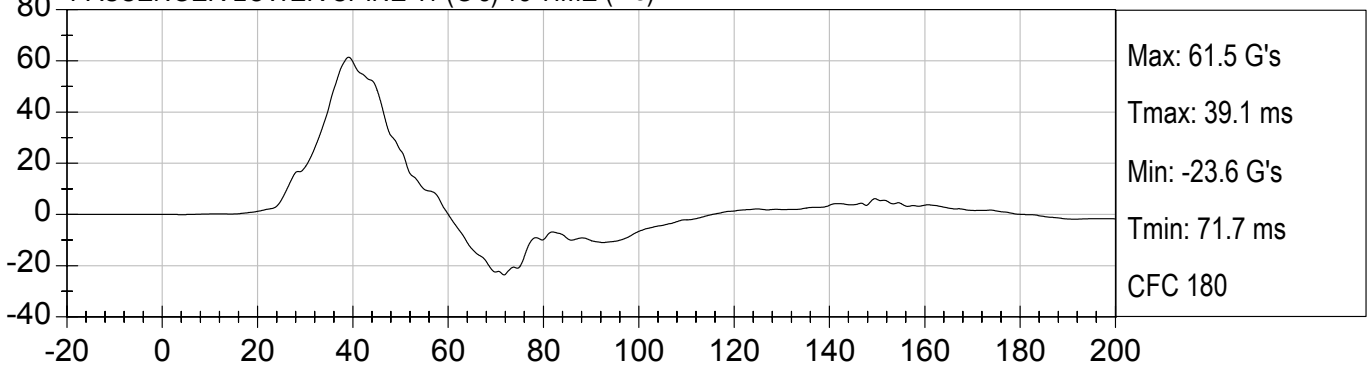
PASSENGER LOWER RIB Yr Velocity (kph) vs TIME (ms)



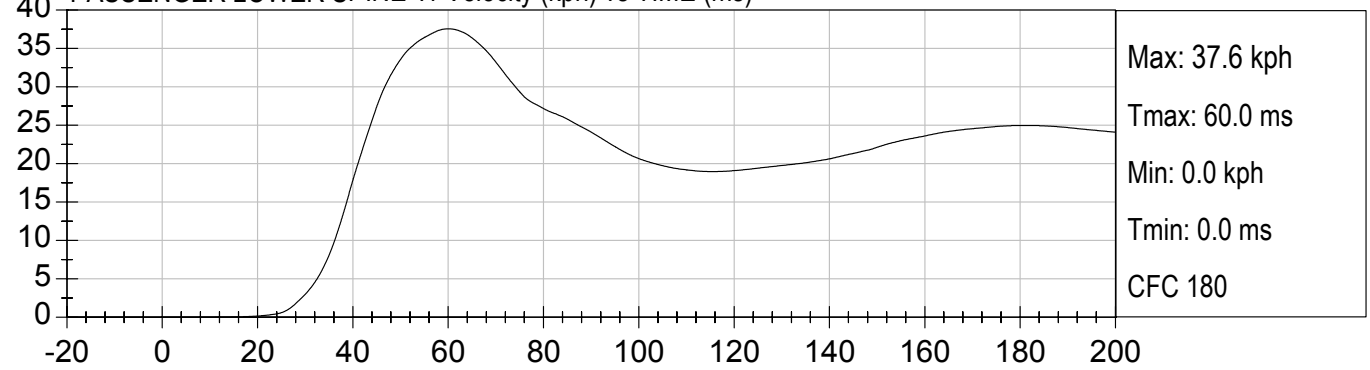
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)

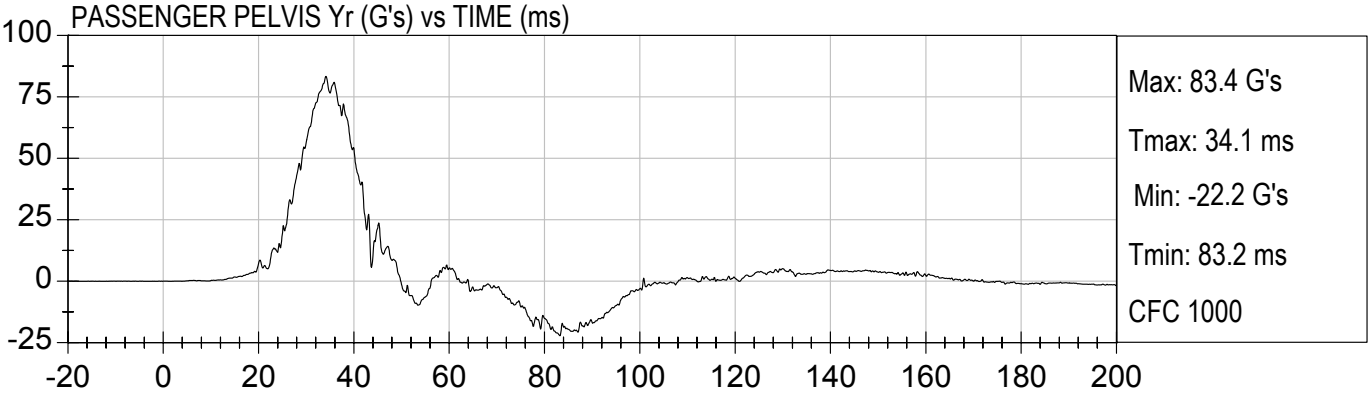
PASSENGER LOWER SPINE Yr (G's) vs TIME (ms)



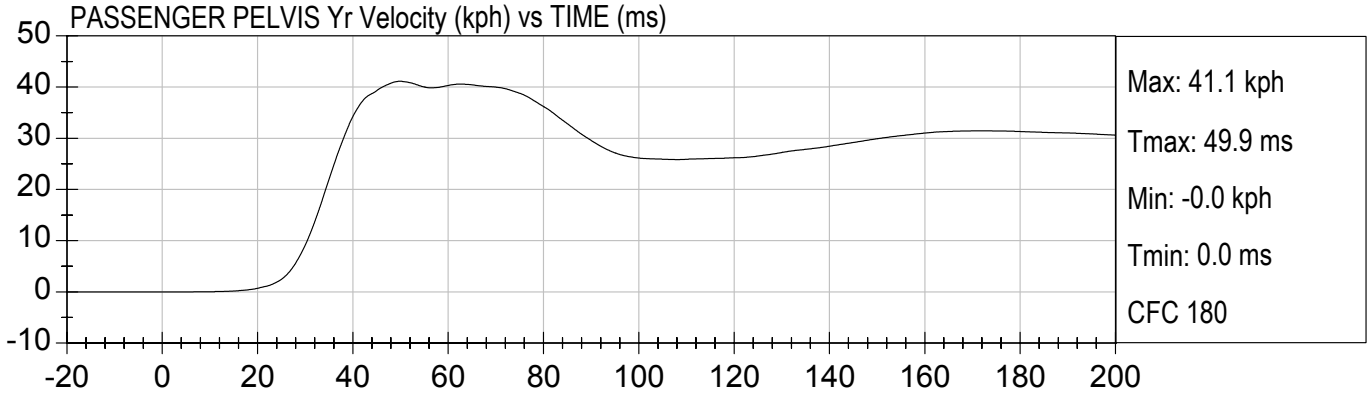
PASSENGER LOWER SPINE Yr Velocity (kph) vs TIME (ms)



PASSENGER PELVIS Yr (G's) vs TIME (ms)

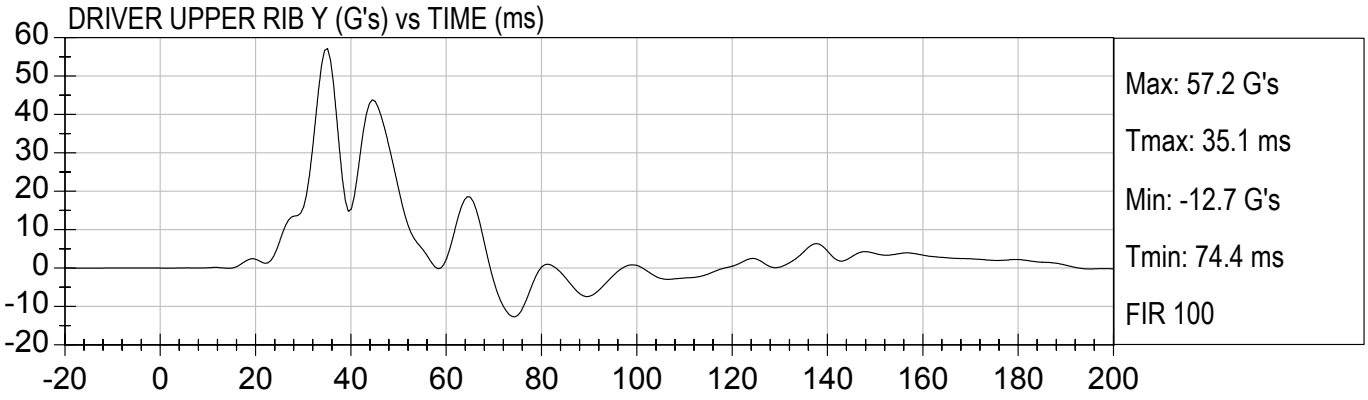


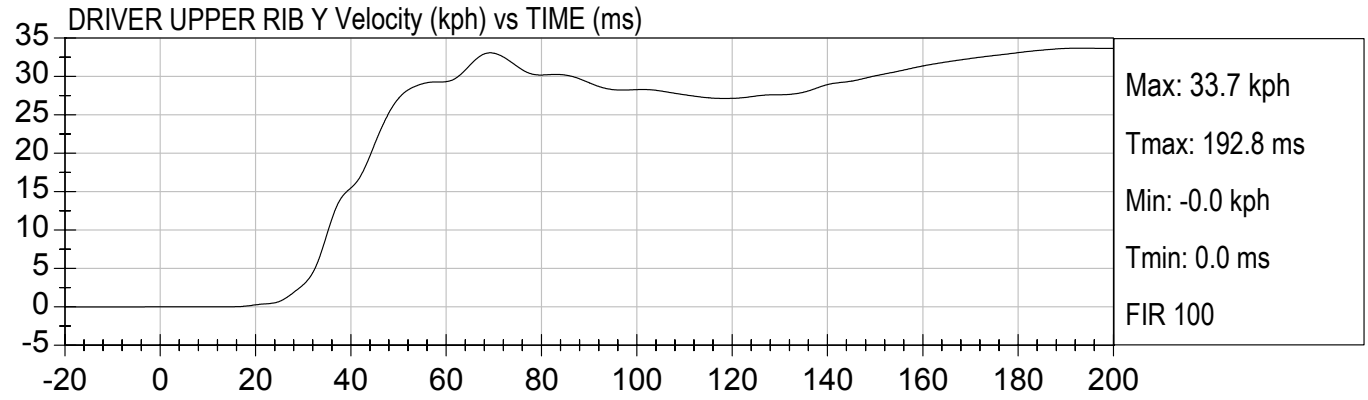
PASSENGER PELVIS Yr Velocity (kph) vs TIME (ms)

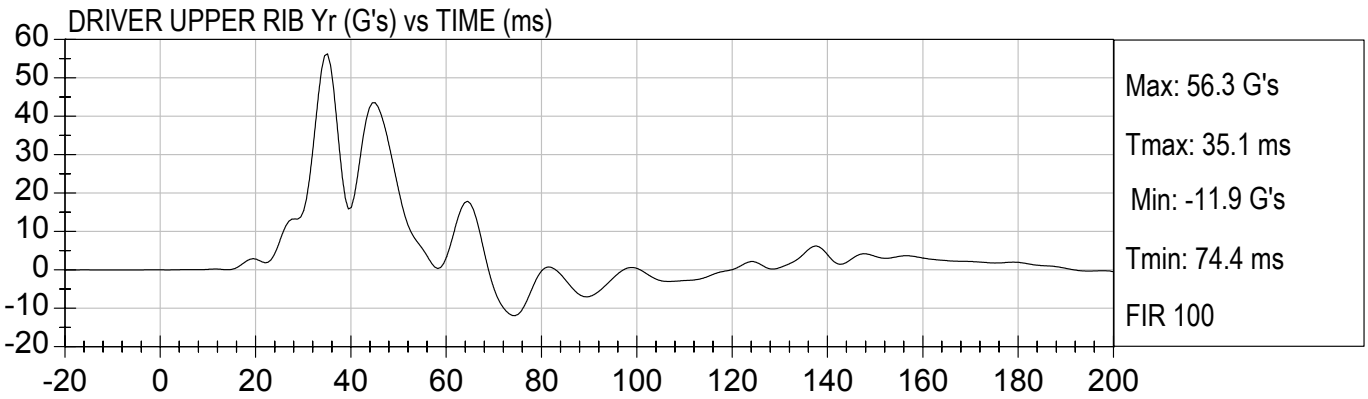


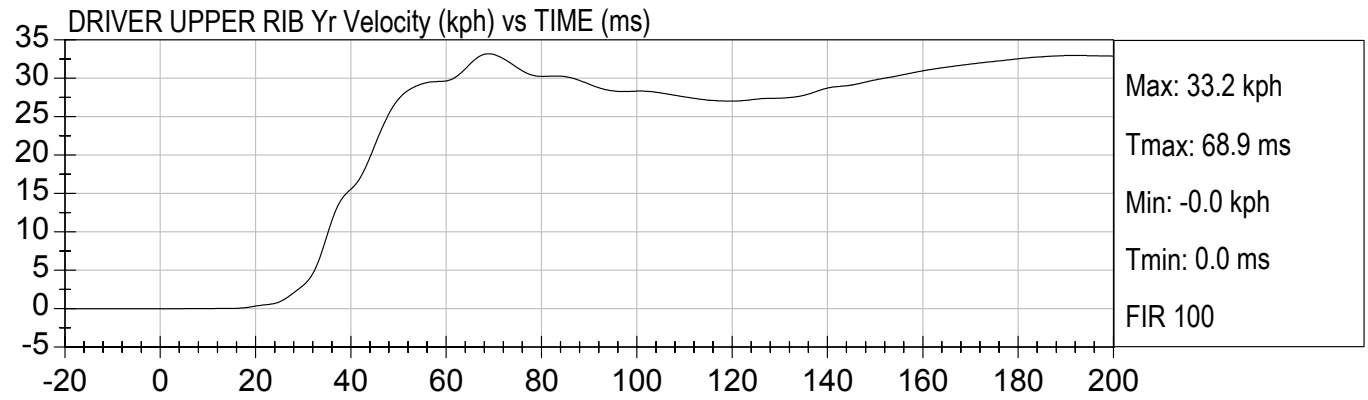
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)



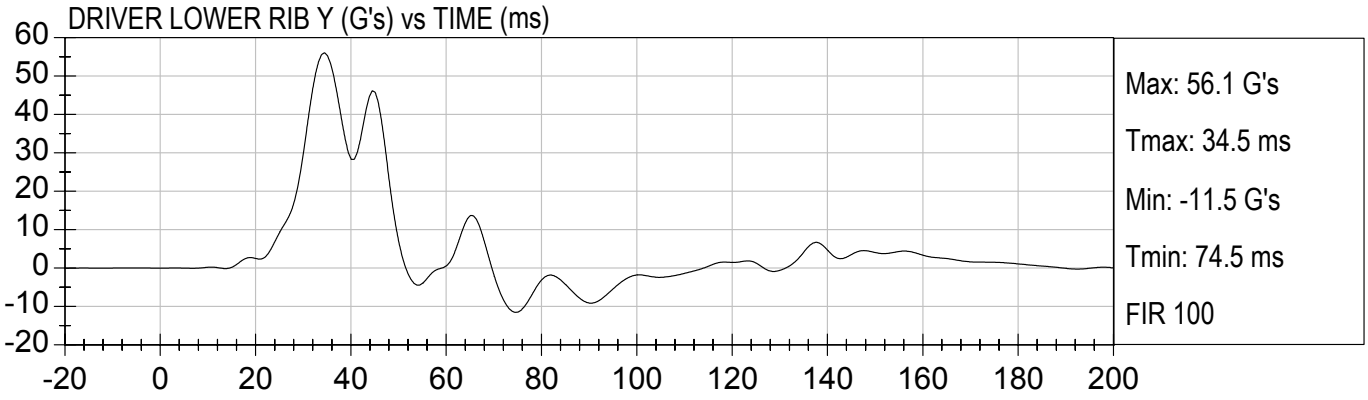


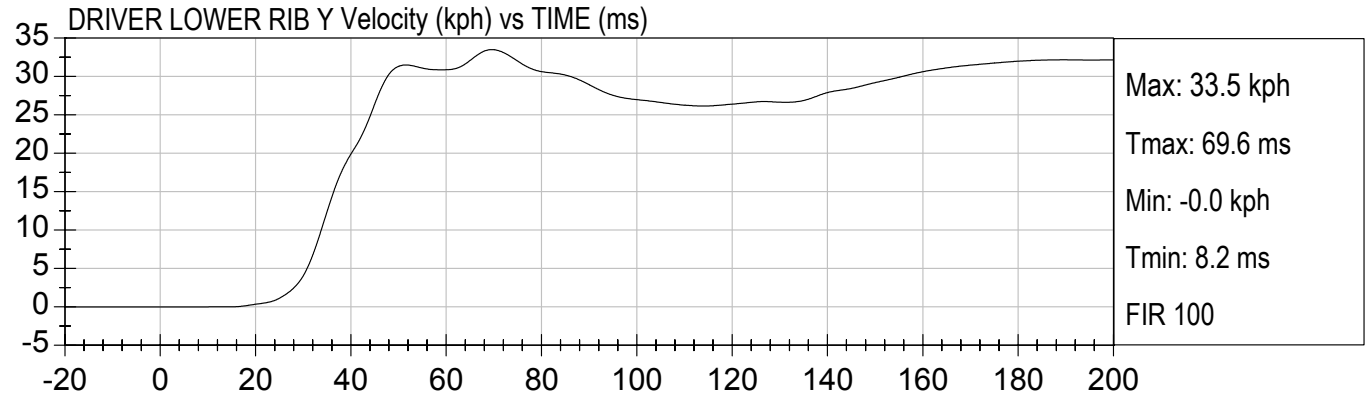


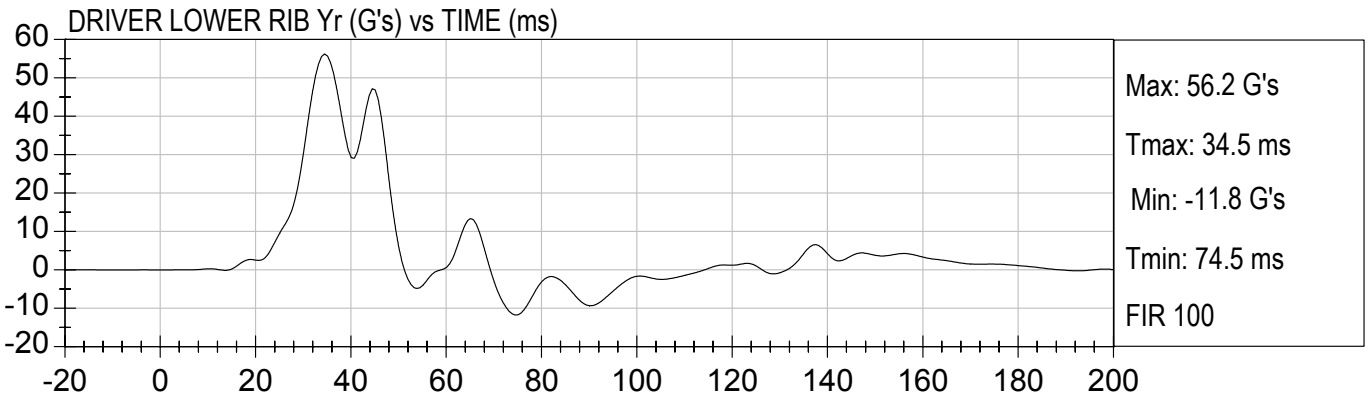


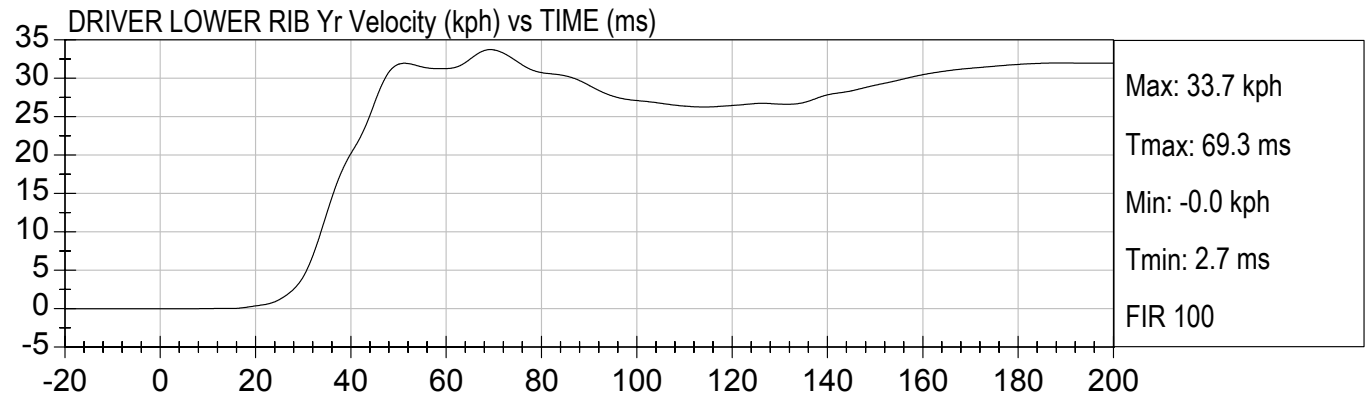
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

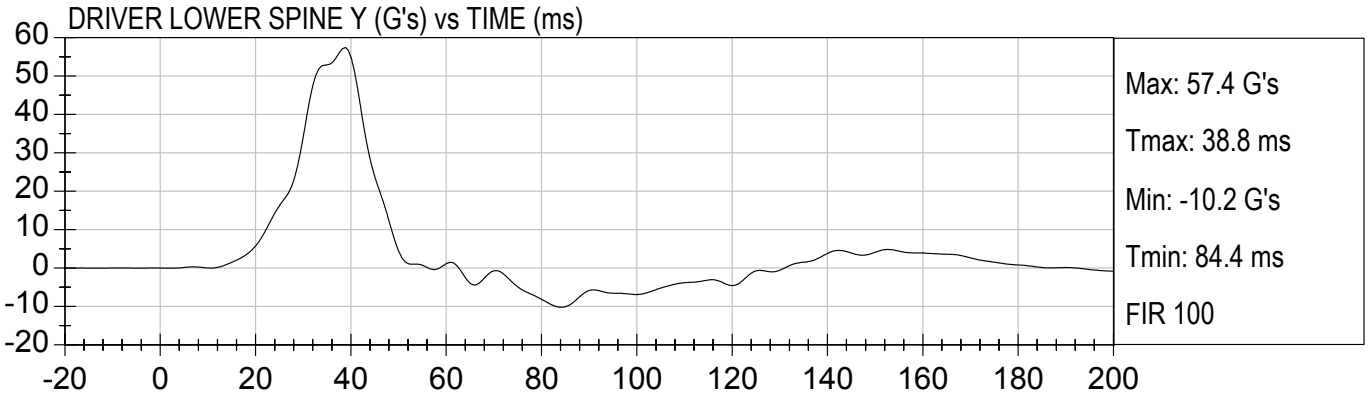
Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)

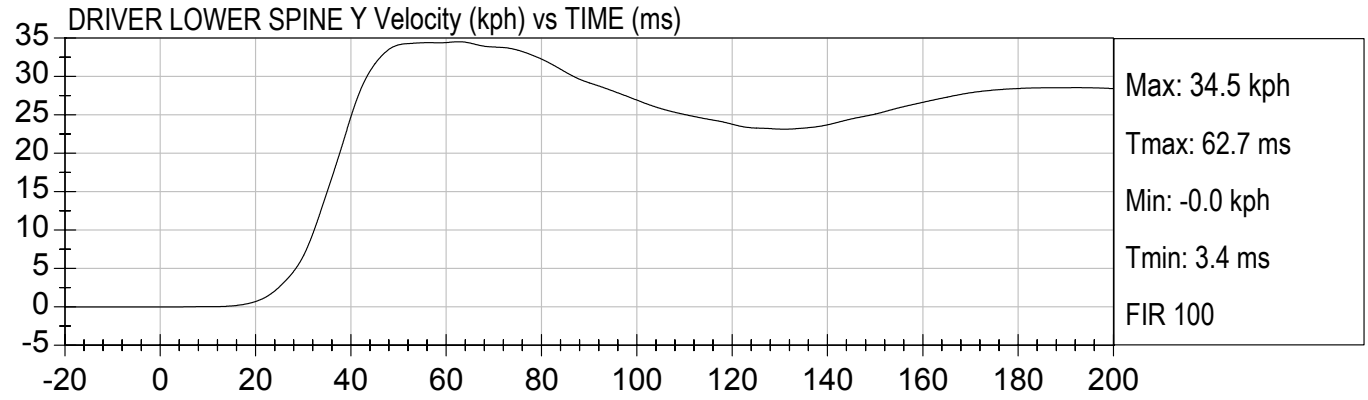


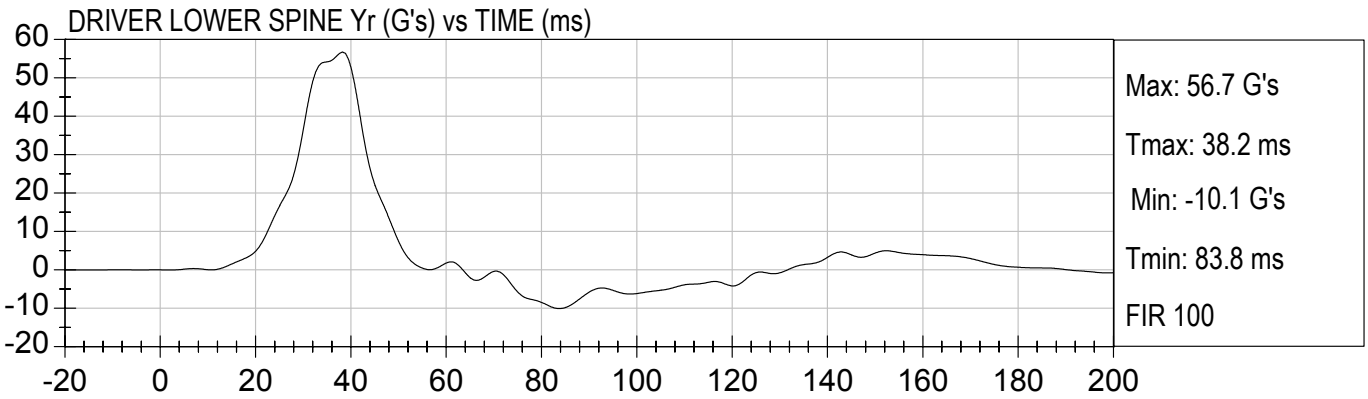


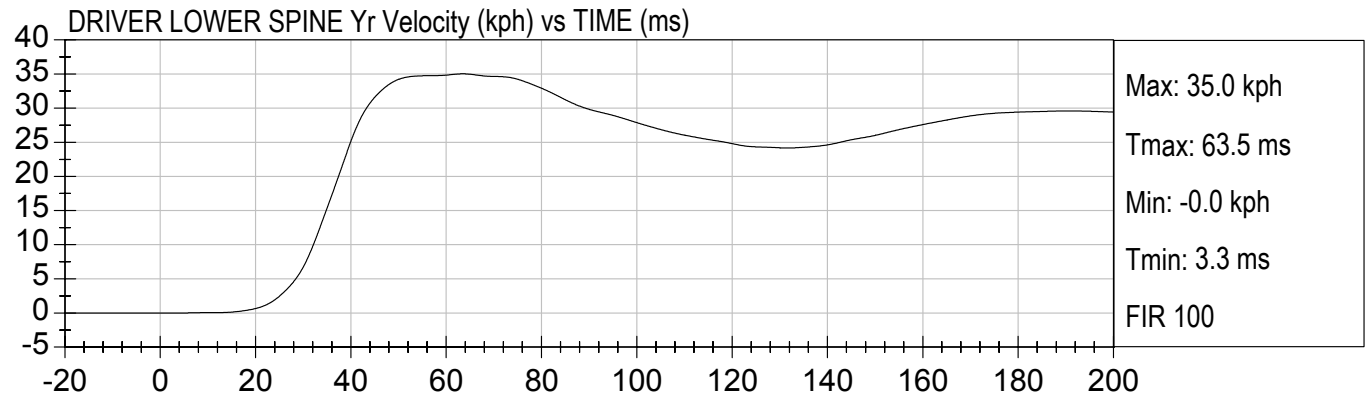





DRIVER LOWER SPINE Y (G's) vs TIME (ms)
60
50
40
30
20
10
0
-10
-20
-20 0 20 40 60 80 100 120 140 160 180 200
Max: 57.4 G's
Tmax: 38.8 ms
Min: -10.2 G's
Tmin: 84.4 ms
FIR 100

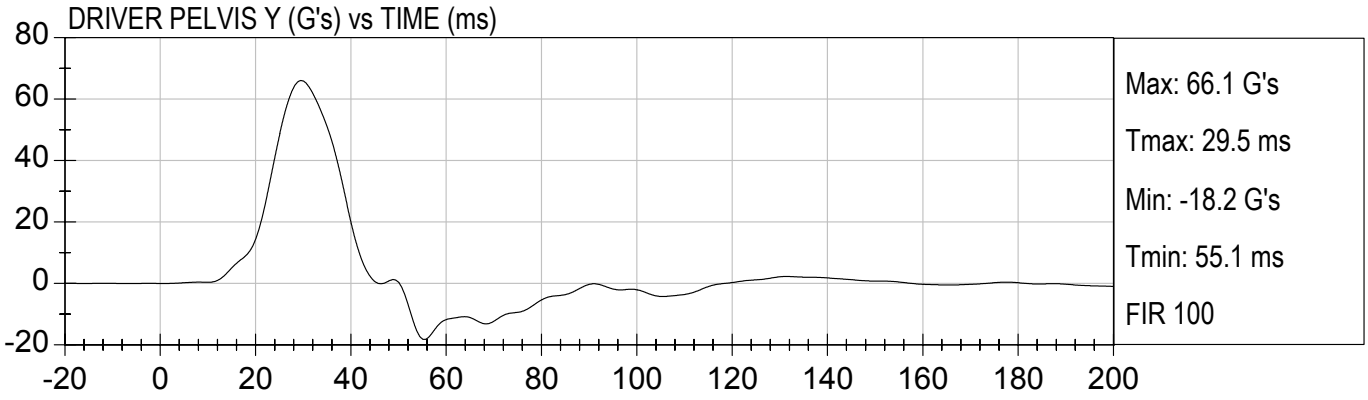

DRIVER LOWER SPINE Y Velocity (kph) vs TIME (ms)
35
30
25
20
15
10
5
0
-5
-20 0 20 40 60 80 100 120 140 160 180 200
Max: 34.5 kph
Tmax: 62.7 ms
Min: -0.0 kph
Tmin: 3.4 ms
FIR 100

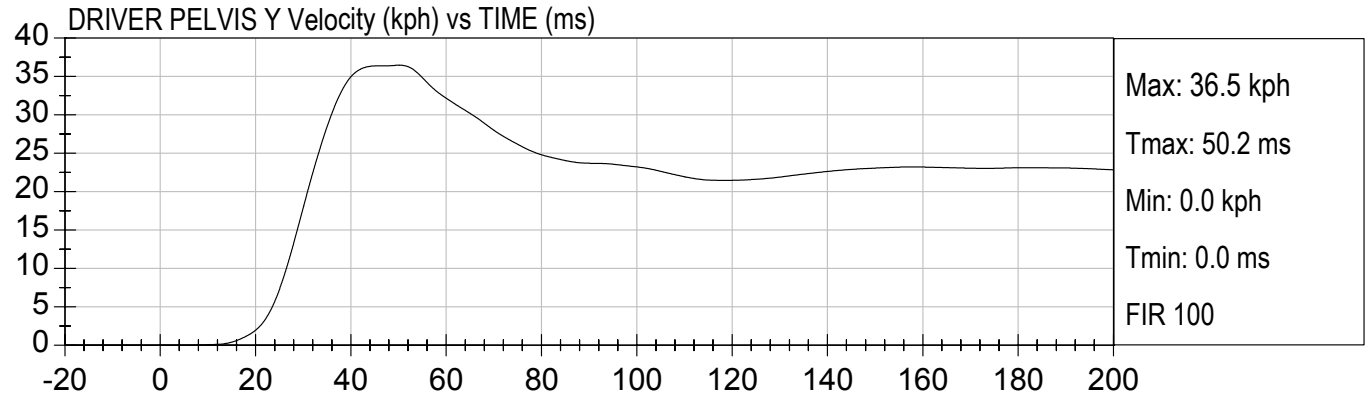

DRIVER LOWER SPINE Yr (G's) vs TIME (ms)
60
50
40
30
20
10
0
-10
-20
-20 0 20 40 60 80 100 120 140 160 180 200
Max: 56.7 G's
Tmax: 38.2 ms
Min: -10.1 G's
Tmin: 83.8 ms
FIR 100

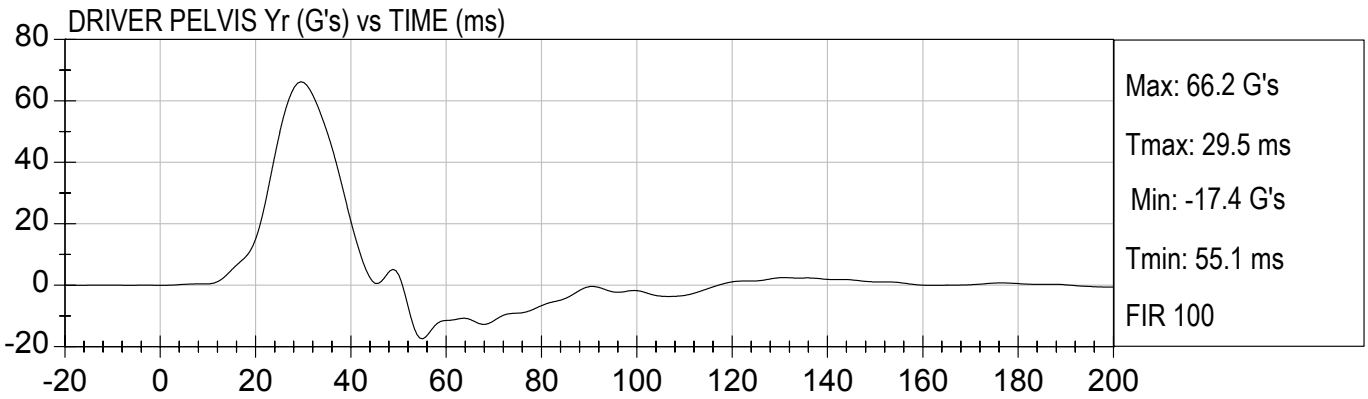

DRIVER LOWER SPINE Yr Velocity (kph) vs TIME (ms)
40
35
30
25
20
15
10
5
0
-5
-20 0 20 40 60 80 100 120 140 160 180 200
Max: 35.0 kph
Tmax: 63.5 ms
Min: -0.0 kph
Tmin: 3.3 ms
FIR 100

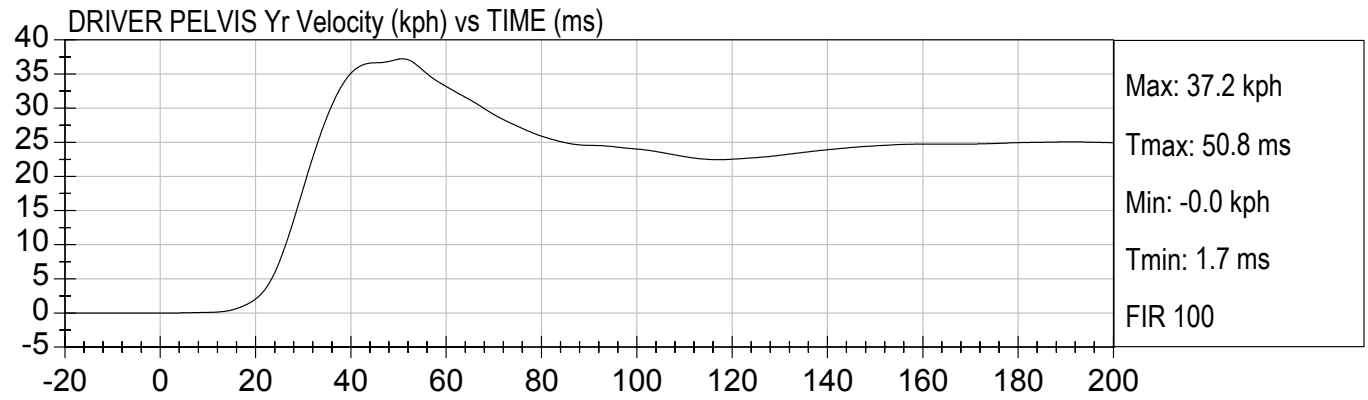
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)



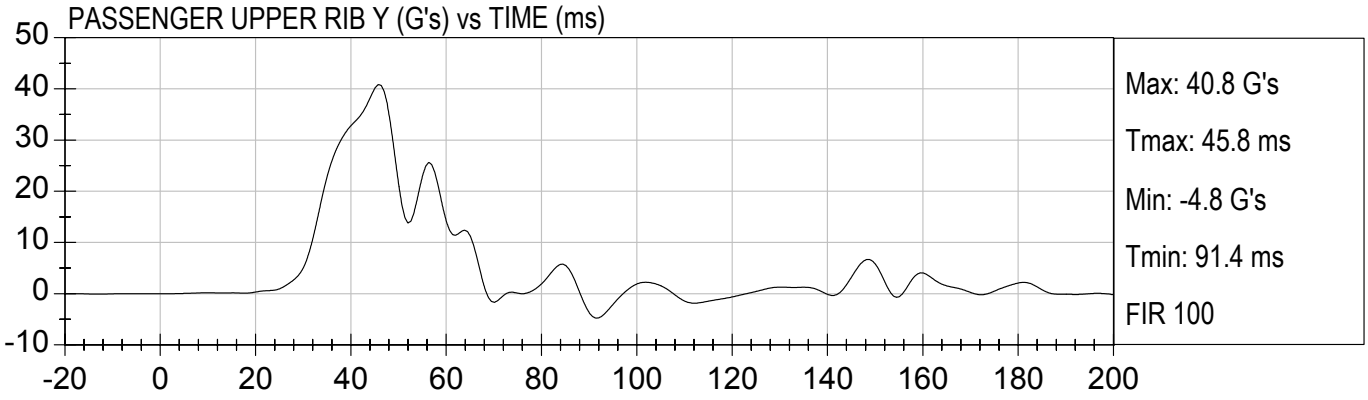


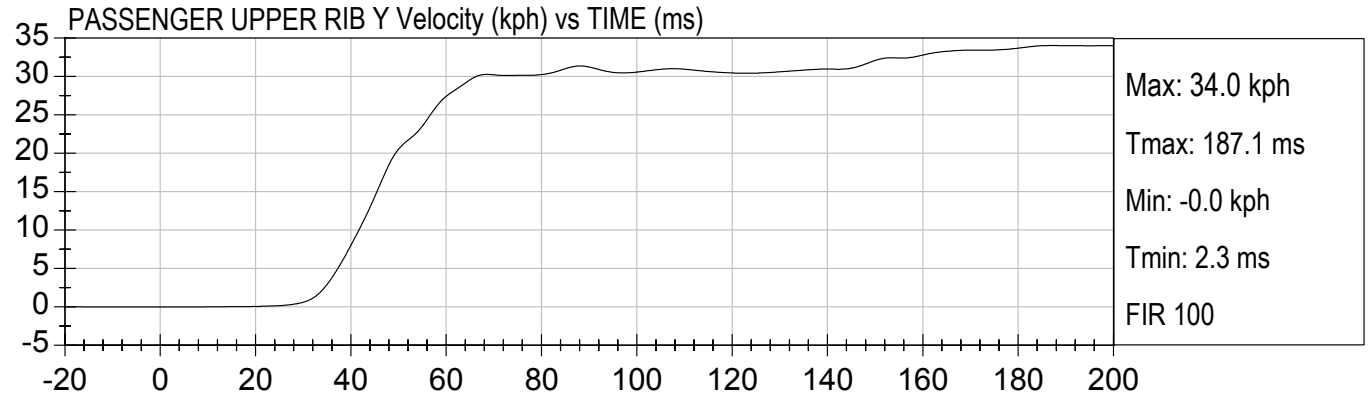


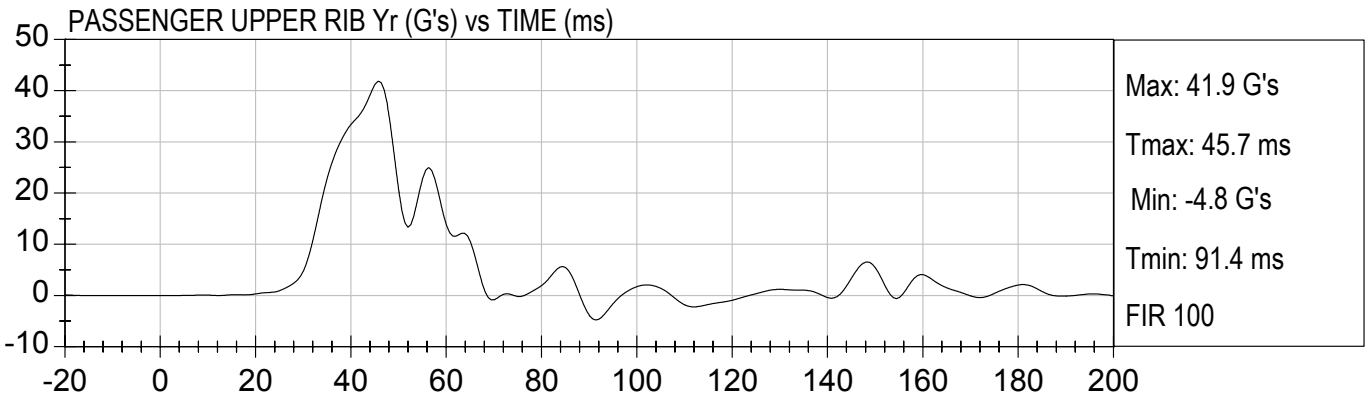


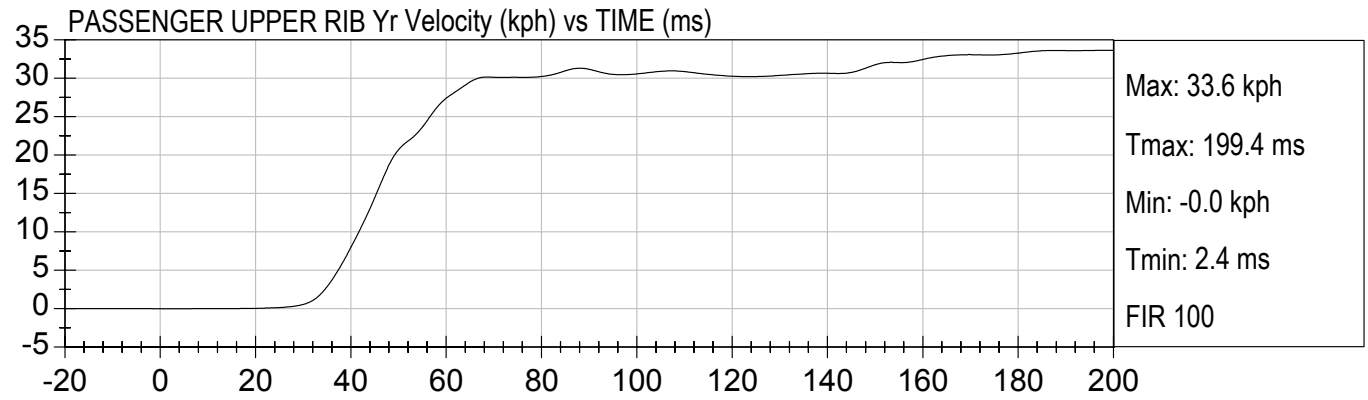
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)



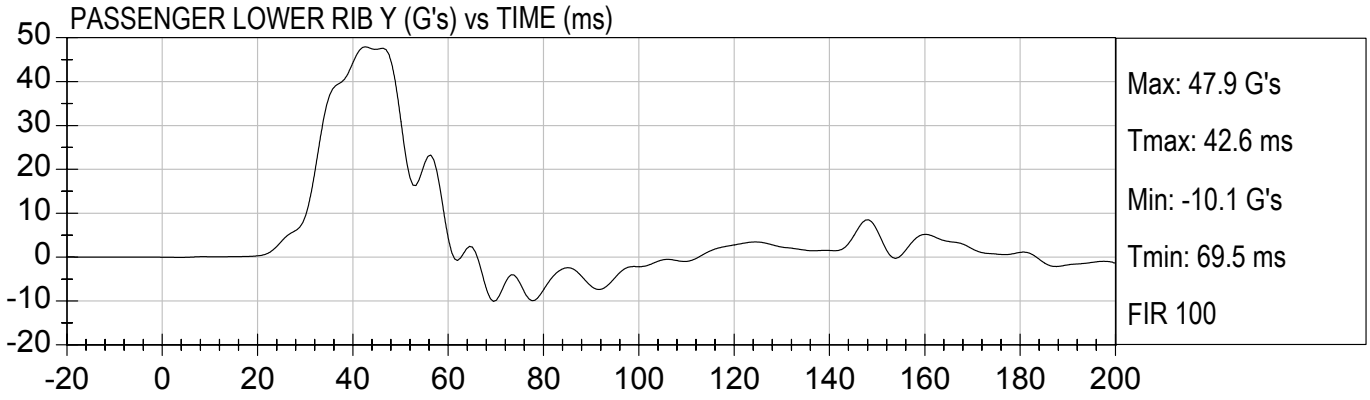


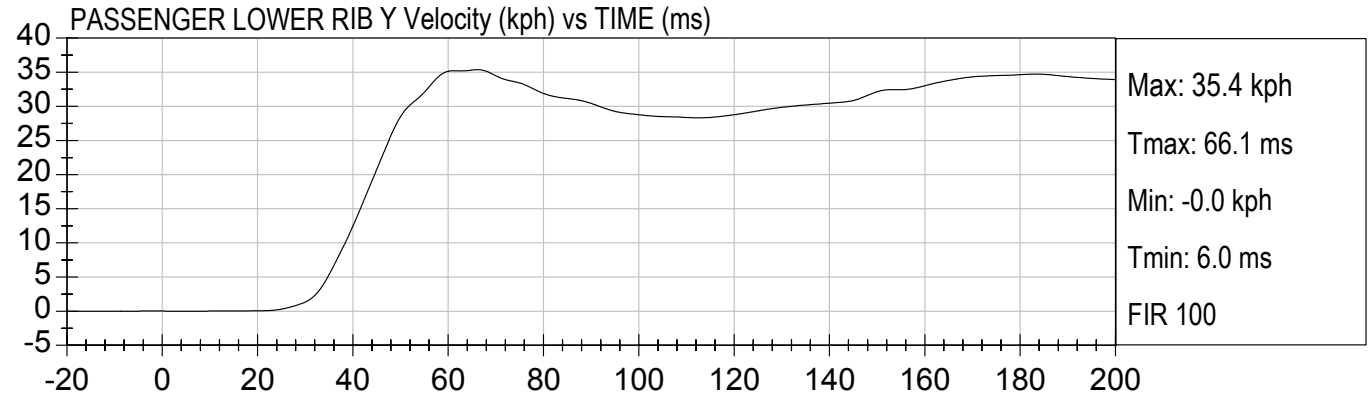


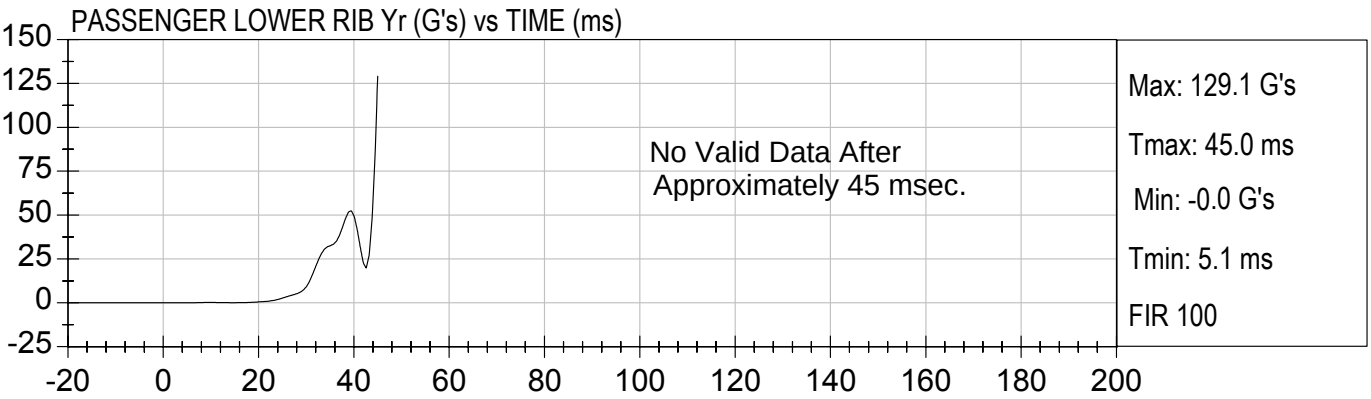


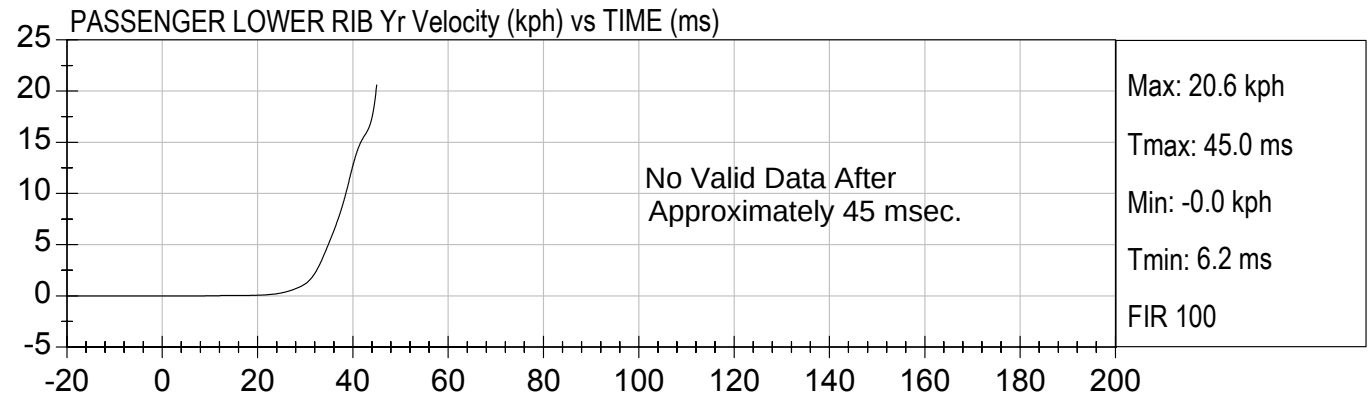
NCAP LEFT SIDE IMPACT
2005 CHEVROLET EQUINOX (M50101)

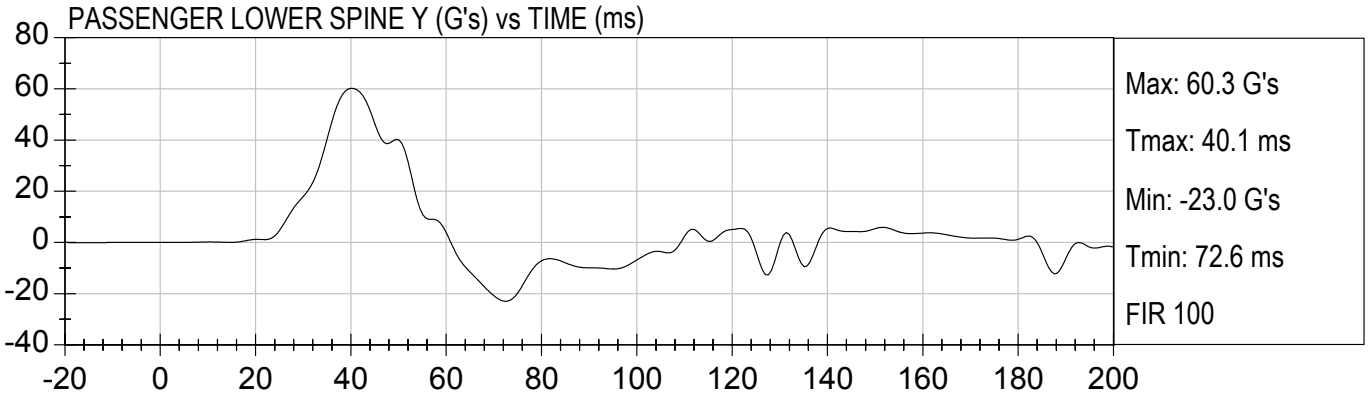
Test Date: 04/22/04
Speed: 38.5 mph (62.0 km/h)

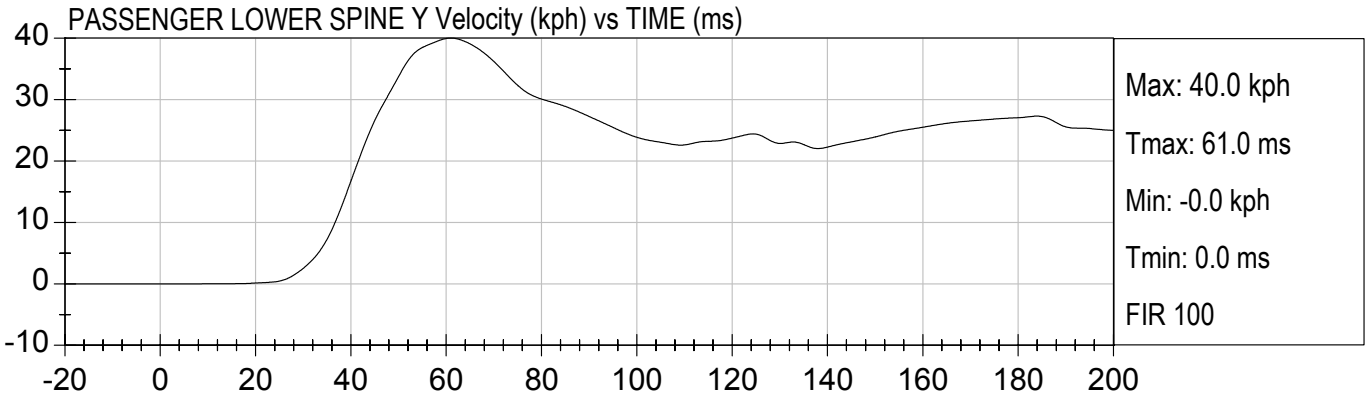


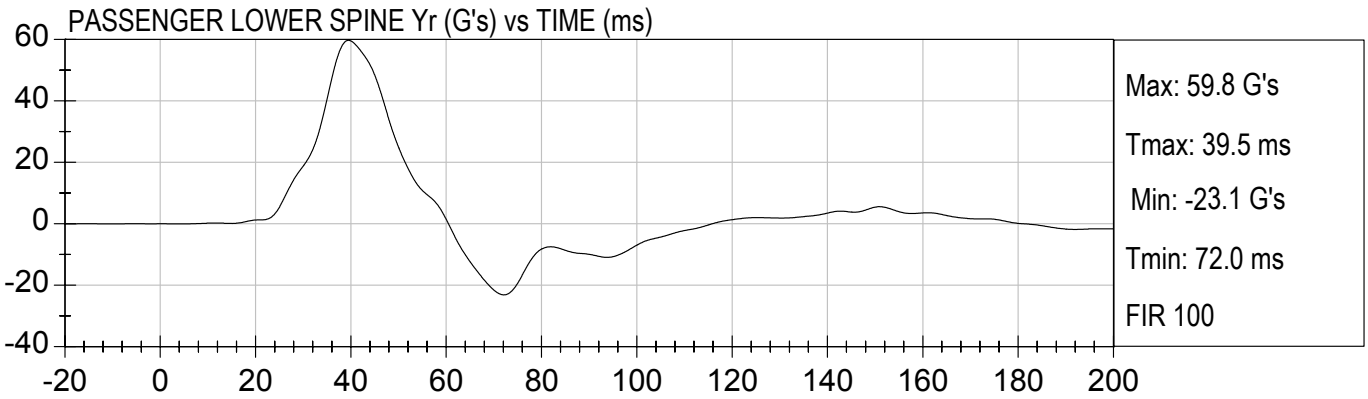


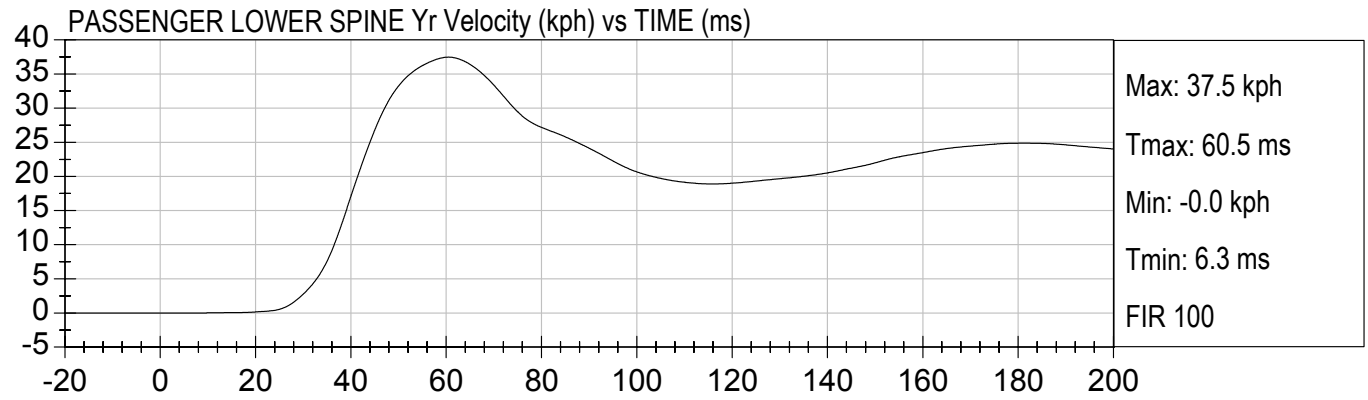


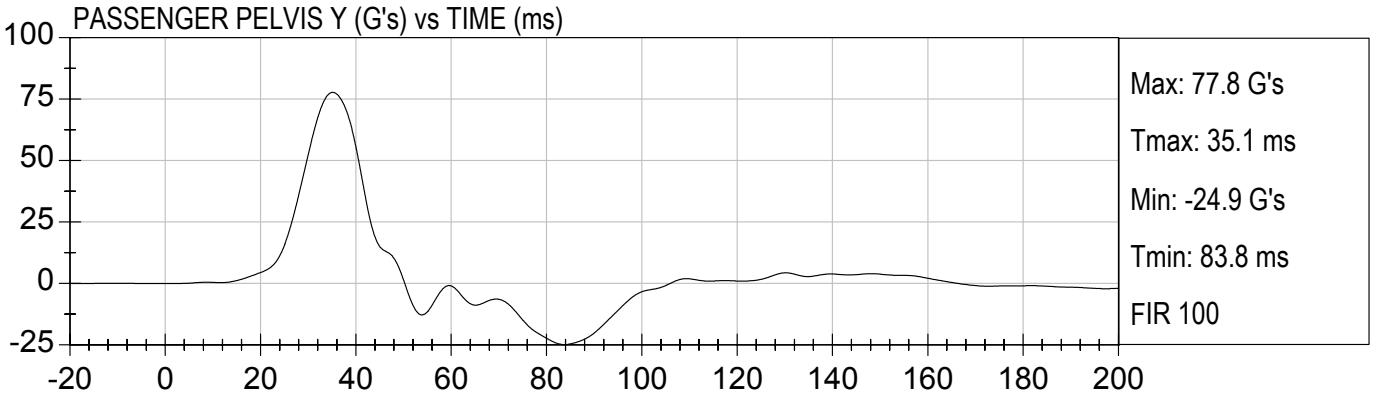


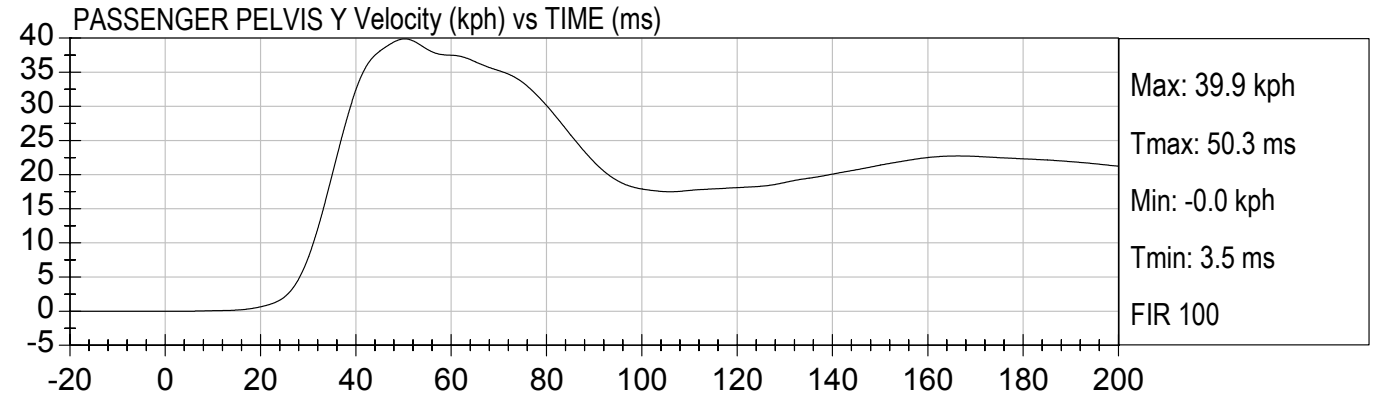

PASSENGER LOWER SPINE Y (G's) vs TIME (ms)
Max: 60.3 G's
Tmax: 40.1 ms
Min: -23.0 G's
Tmin: 72.6 ms
FIR 100

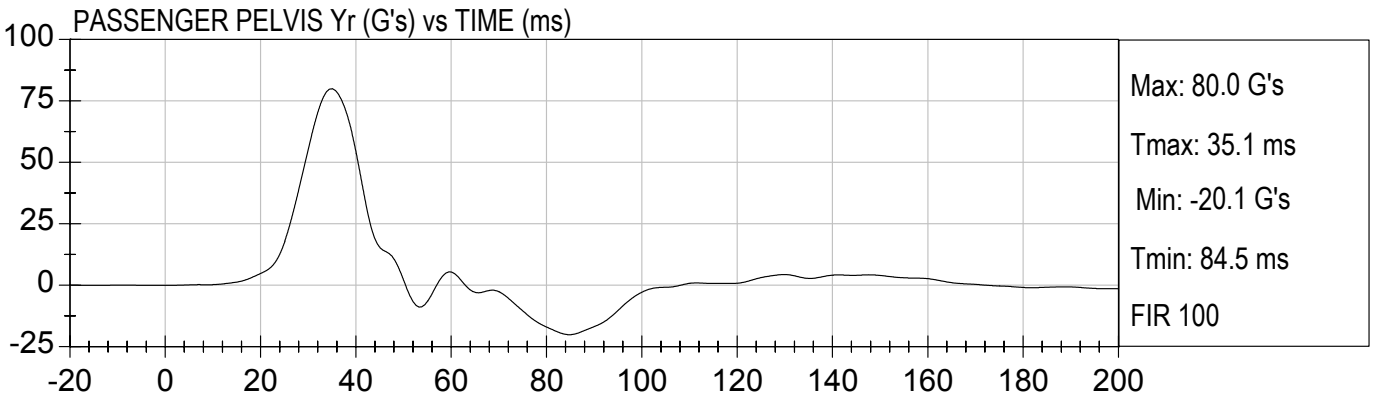

PASSENGER LOWER SPINE Y Velocity (kph) vs TIME (ms)
Max: 40.0 kph
Tmax: 61.0 ms
Min: -0.0 kph
Tmin: 0.0 ms
FIR 100

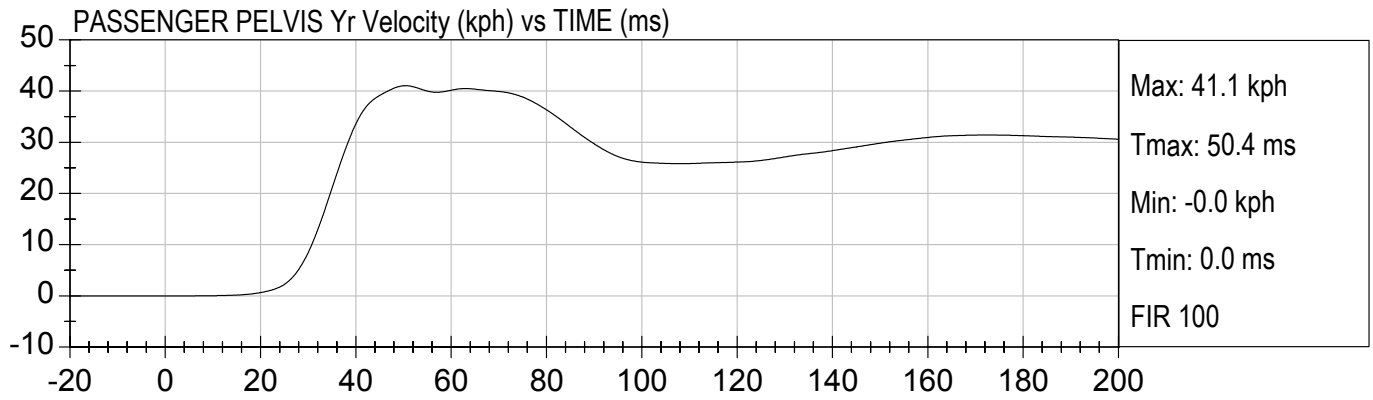

PASSENGER LOWER SPINE Yr (G's) vs TIME (ms)
Max: 59.8 G's
Tmax: 39.5 ms
Min: -23.1 G's
Tmin: 72.0 ms
FIR 100


PASSENGER LOWER SPINE Yr Velocity (kph) vs TIME (ms)
Max: 37.5 kph
Tmax: 60.5 ms
Min: -0.0 kph
Tmin: 6.3 ms
FIR 100


PASSENGER PELVIS Y (G's) vs TIME (ms)
100
75
50
25
0
-25
-20 0 20 40 60 80 100 120 140 160 180 200
Max: 77.8 G's
Tmax: 35.1 ms
Min: -24.9 G's
Tmin: 83.8 ms
FIR 100


PASSENGER PELVIS Y Velocity (kph) vs TIME (ms)
40
35
30
25
20
15
10
5
0
-5
-20 0 20 40 60 80 100 120 140 160 180 200
Max: 39.9 kph
Tmax: 50.3 ms
Min: -0.0 kph
Tmin: 3.5 ms
FIR 100


PASSENGER PELVIS Yr (G's) vs TIME (ms)
100
75
50
25
0
-25
-20 0 20 40 60 80 100 120 140 160 180 200
Max: 80.0 G's
Tmax: 35.1 ms
Min: -20.1 G's
Tmin: 84.5 ms
FIR 100


PASSENGER PELVIS Yr Velocity (kph) vs TIME (ms)
50
40
30
20
10
0
-10
-20 0 20 40 60 80 100 120 140 160 180 200
Max: 41.1 kph
Tmax: 50.4 ms
Min: -0.0 kph
Tmin: 0.0 ms
FIR 100

APPENDIX C

SID/HIII CONFIGURATION AND PERFORMANCE VERIFICATION DATA

CERTIFICATION DATA

Dummy Serial Number: 904

Calibration Test Results Summary

Dummy Serial Number: 904

Pre-Test Calibration

External Dimensions:	The dummy passed all external dimension requirements.
Head Drop Test:	The head passed all drop test requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen passed all compression test requirements.
Lumbar Flexion Test:	The lumbar passed all flexion test requirements.

SID Calibration Data Sheet

Side Impact Dummy

External Measurements

ATD Serial No: 904 **Test I.D:** D0436

Tested Parameter	Units	Specification	Result	Pass/Fail
SH - Seated Height	mm	889 - 909	903	Pass
RH - Rib Height	mm	501 - 521	509	Pass
HP - Hip Pivot Height	mm	99 ref.	99	Pass
RD - Rib from Back Line	mm	229 - 241	240	Pass
KV - Knee Pivot to Back Line	mm	511 - 526	525	Pass
SW - Knee Pivot to Floor	mm	490 - 505	500	Pass
HW - Hip Width	mm	356 - 391	368	Pass
		Overall Test Results		Pass

Jessica Gall
Laboratory Technician

11/12/2003
Test Date

Sujatha Naik
Approved By

SID Calibration Data Sheet

Side Impact Dummy

Head Drop Calibration (Lateral)

ATD Serial No: 904 **Test I.D:** D04361

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	22.0	Pass
Laboratory Relative Humidity	%	10 to 70	33	Pass
Peak Resultant Acceleration	G's	120 to 150	146	Pass
Is Resultant Curve Unimodal?	Yes/No	15% of peak	Yes	Pass
Peak Longitudnal Acceleration	G's	+/- 15	-8	Pass
		Overall Test Results		Pass

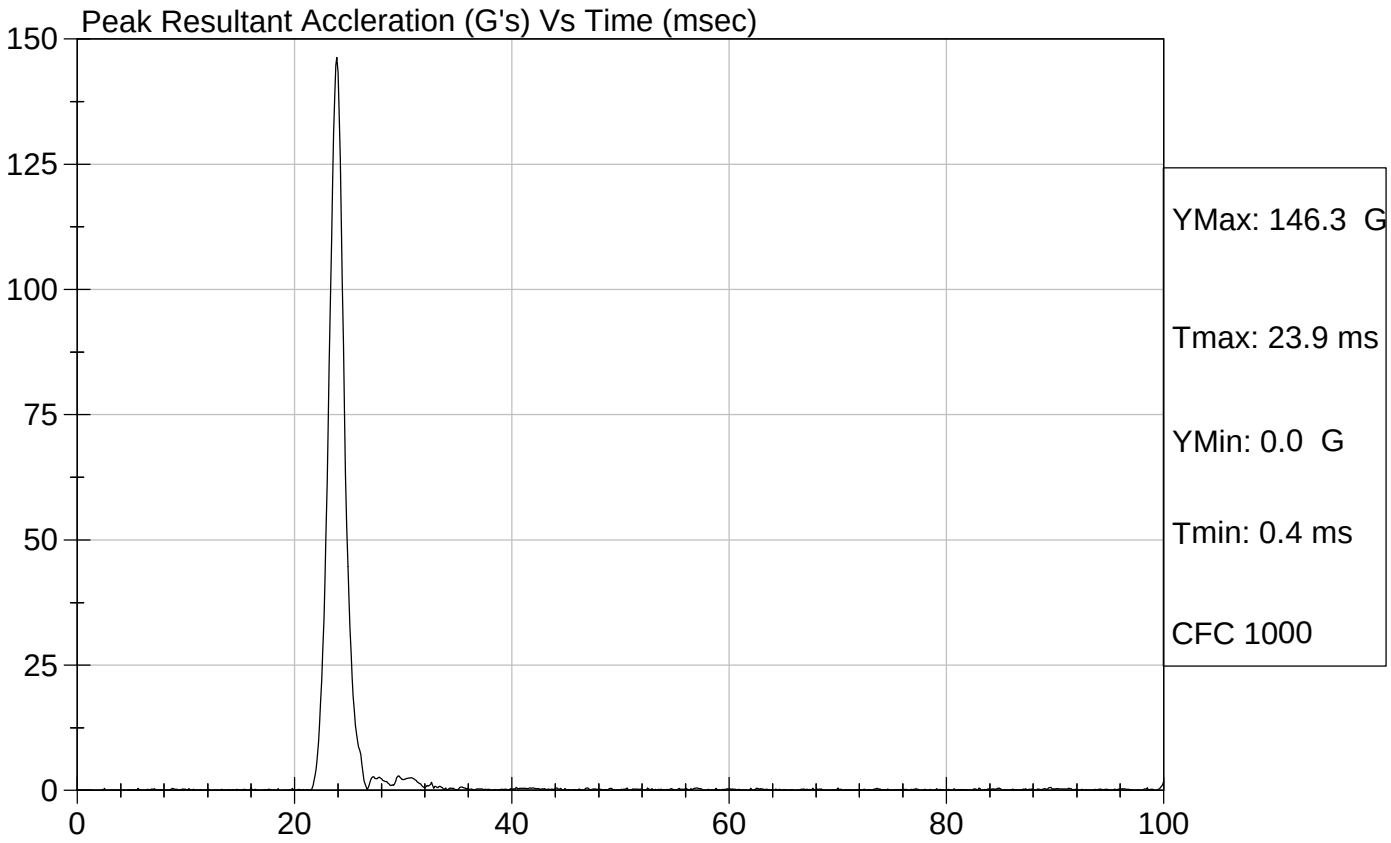
Jessica Gall
Laboratory Technician

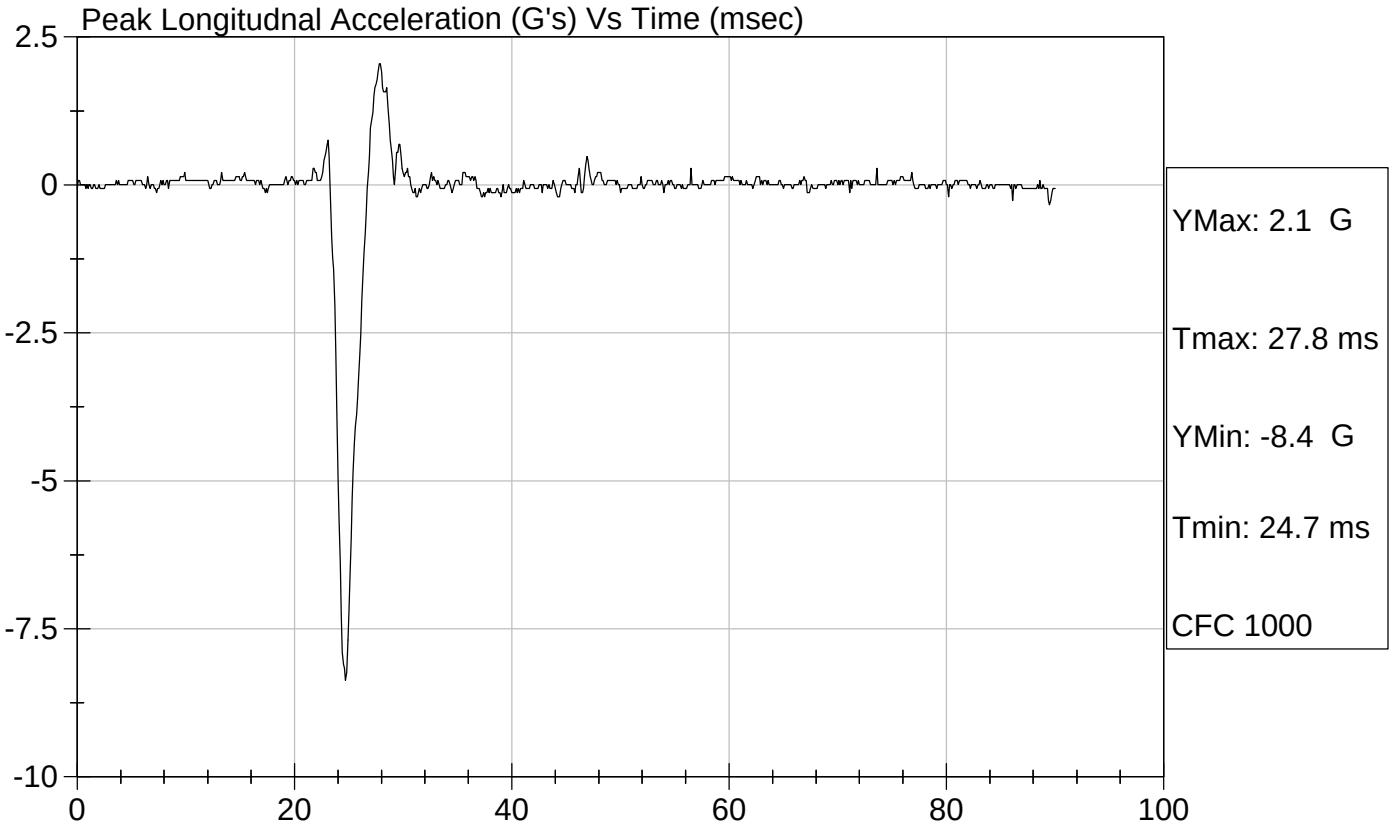
02/20/2004
Test Date

Sujatika Naik
Approved By

Test Description: Head Impact | Test Date: 02/20/2004

Component: D04361 | Speed: 0 ft/s, 0.00 m/s





SID Calibration Data Sheet

Side Impact Dummy

Thorax Impact Test

ATD Serial No: 904 **Test I.D:** D04362

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.5	Pass
Laboratory Relative Humidity	%	10 to 70	32	Pass
Probe Velocity	m/s	4.27 - 4.33	4.29	Pass
Upper Rib	G's	37 - 46	43	Pass
Lower Rib	G's	37 - 46	42	Pass
Lower Spine	G's	15 - 22	22	Pass
		Overall Test Results		Pass

Jessica Gall
Laboratory Technician

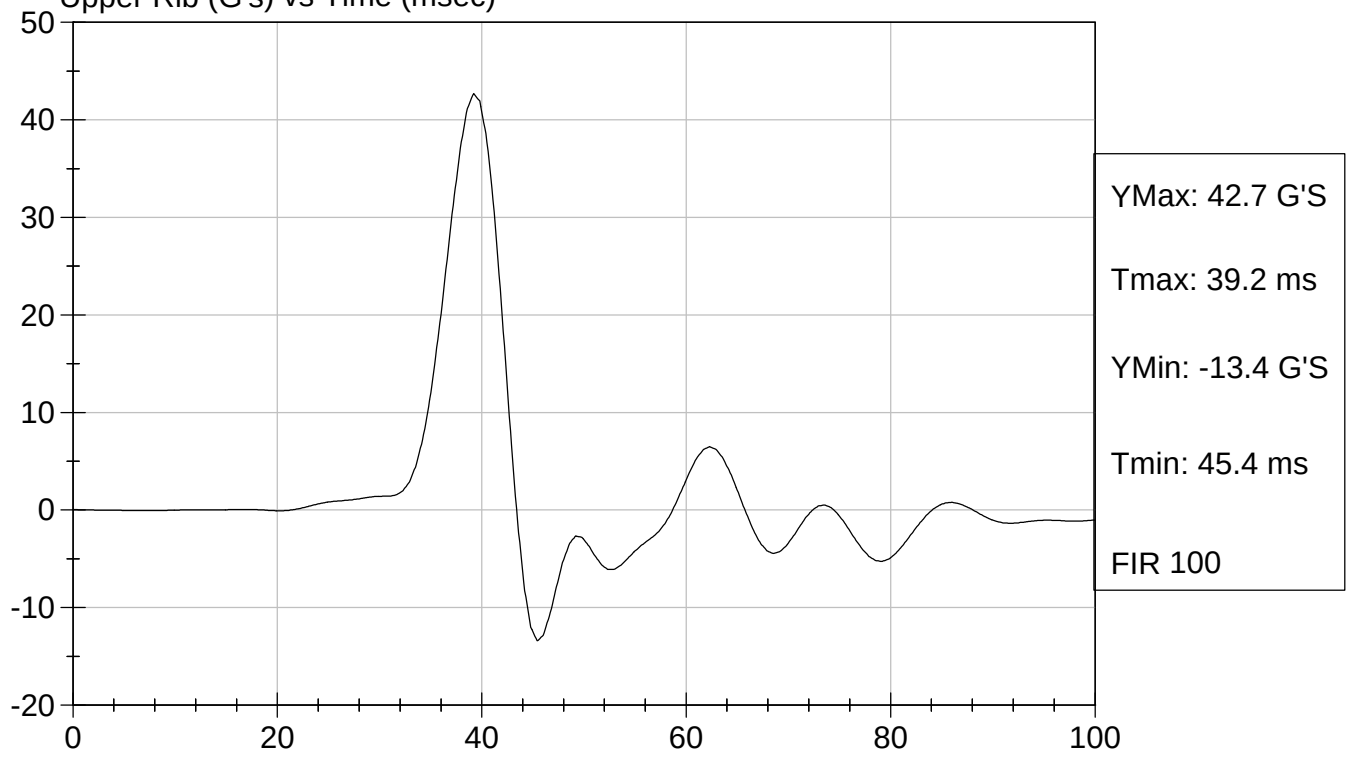
02/20/2004
Test Date

Sujatika Naik
Approved By

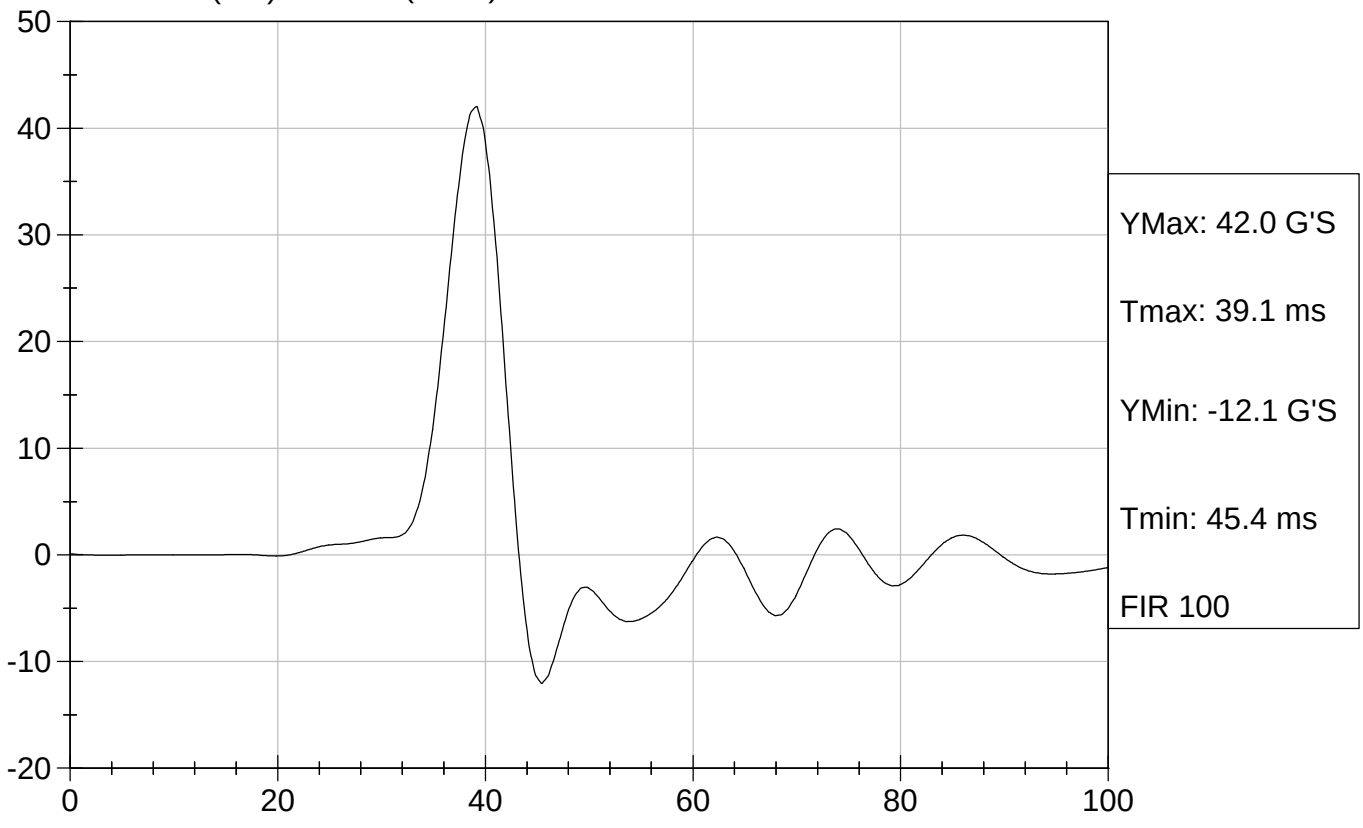
Test Desc: Thorax Impact
Component ID: D04362

Test Date: 02/20/2004
Speed: 14.08 ft/sec, 4.29 m/sec

Upper Rib (G's) vs Time (msec)

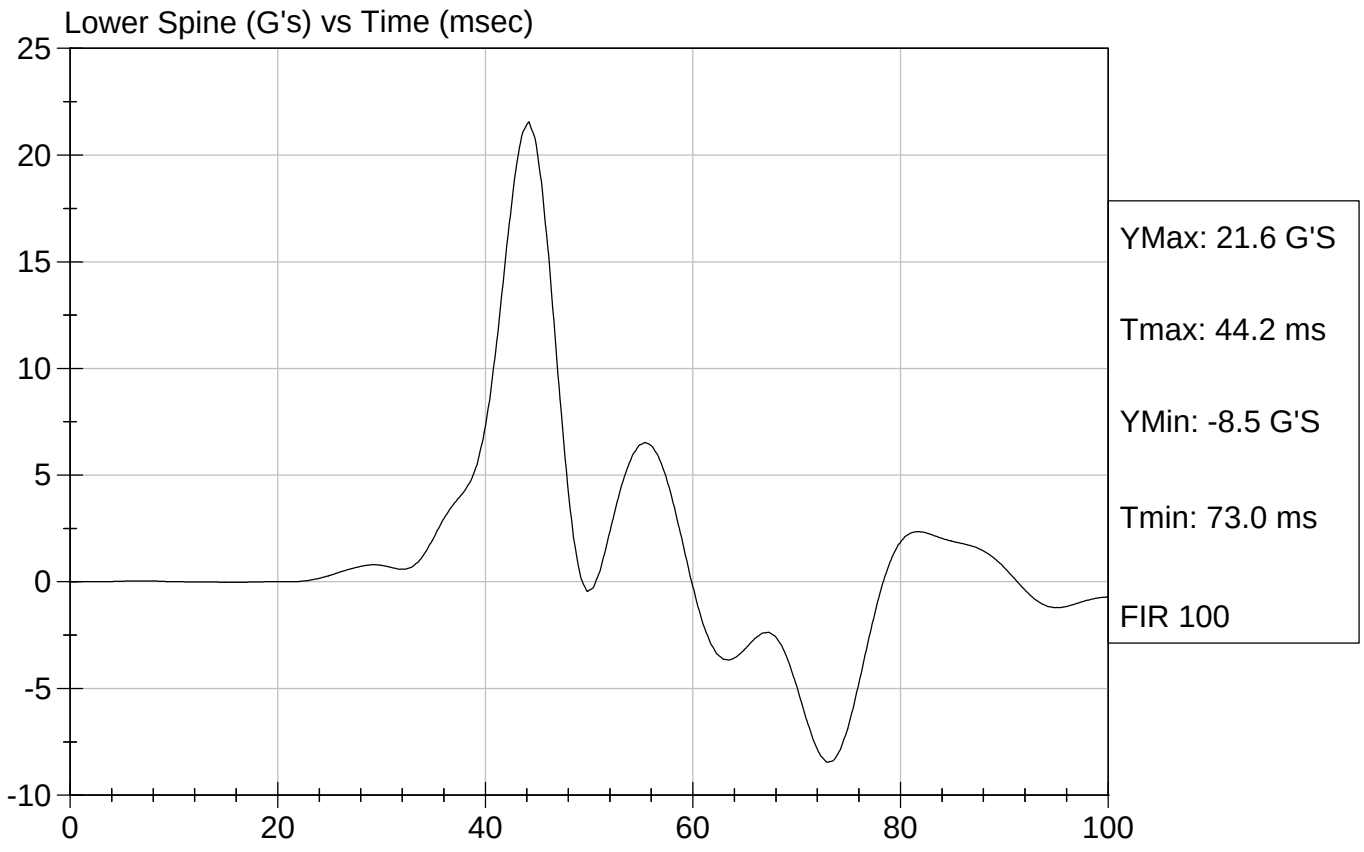


Lower Rib (G's) vs Time (msec)



Test Desc: Thorax Impact
Component ID: D04362

Test Date: 02/20/2004
Speed: 14.08 ft/sec, 4.29 m/sec



SID Calibration Data Sheet

Side Impact Dummy

Pelvis Impact Test

ATD Serial No: 904 **Test I.D:** D04363

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	32	Pass
Probe Velocity	m/s	4.27 - 4.33	4.29	Pass
Pelvis Acceleration	G's	40 - 60	44	Pass
		Overall Test Results		Pass

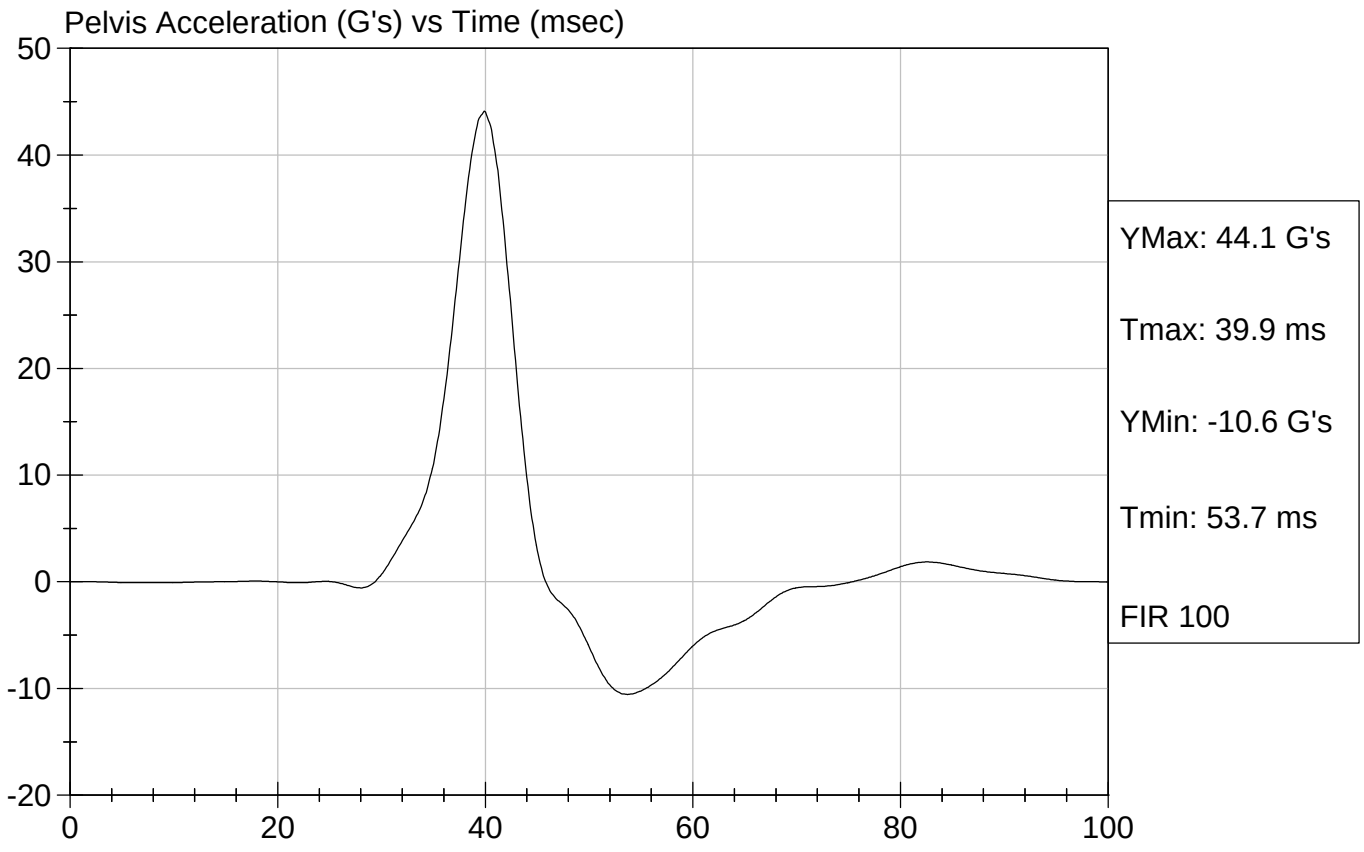
Jessica Gall
Laboratory Technician

02/20/2004
Test Date

Sujatha Naik
Approved By

Test Desc: Pelvis Impact
Component ID: D04363

Test Date: 02/20/2004
Speed: 14.07 ft/sec, 4.29 m/sec



SID Calibration Data Sheet

Side Impact Dummy

Abdominal Compression Calibration (Pre-Load = 10 lbs)

ATD Serial No: 904 **Test I.D:** D04364

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	22.0	Pass
Laboratory Relative Humidity	%	10 to 70	33	Pass
Force At 12.7 mm	N	104 -162	148	Pass
Force At 19 mm	N	163 - 222	205	Pass
Force At 25.4 mm	N	222 - 280	271	Pass
Force At 33 mm	N	325 - 391	379	Pass
		Overall Test Results		Pass

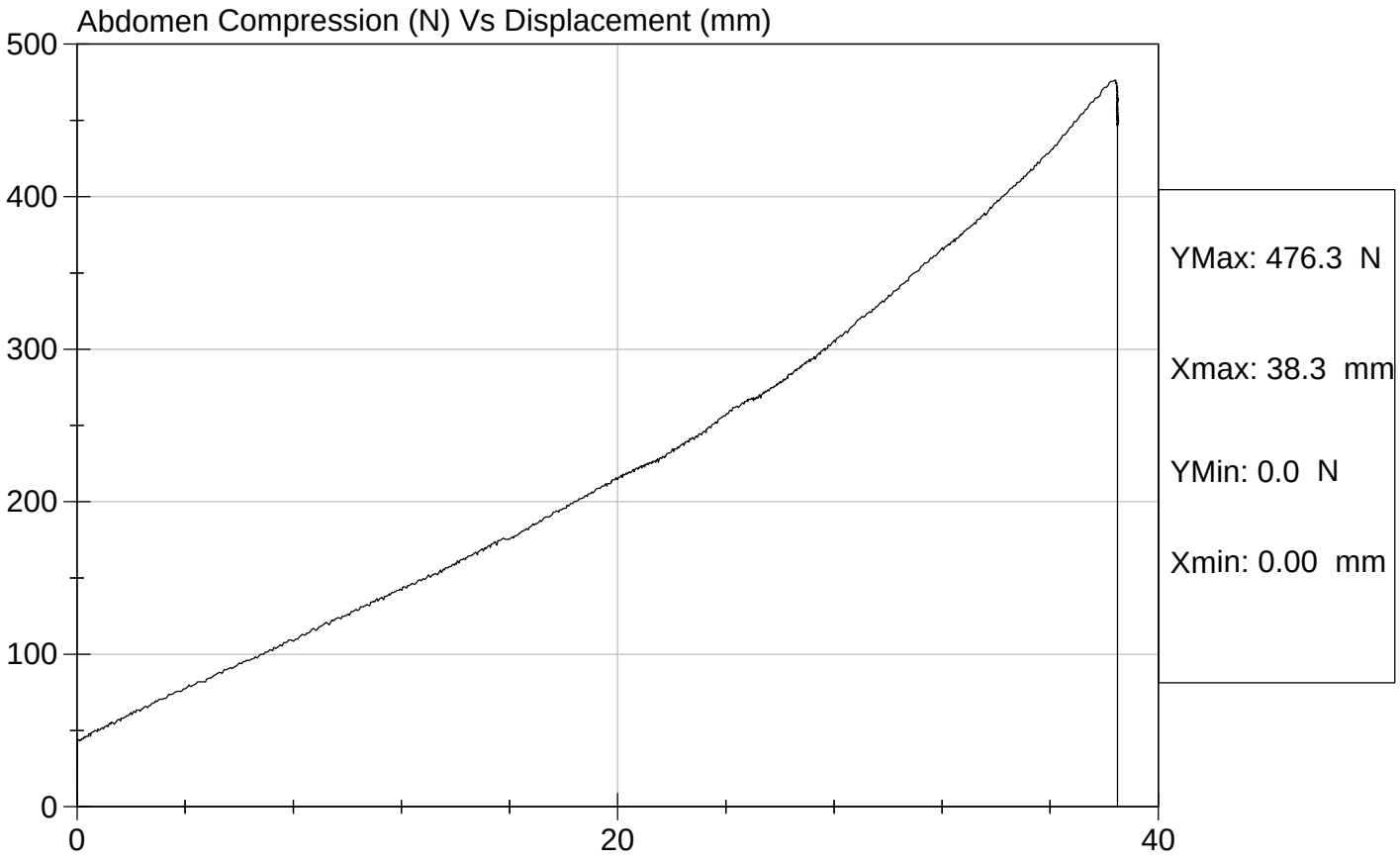
Jessica Gall
Laboratory Technician

02/20/2004
Test Date

Sujatika Naik
Approved By

Test Description: Abdomen Compression Test Date: 02/20/2004

Component: D04364 Speed: 0 ft/sec, 0 m/sec



SID Calibration Data Sheet

Side Impact Dummy

Lumbar Flexion Calibration

ATD Serial No: 904 **Test I.D:** D04365

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	22.0	Pass
Laboratory Relative Humidity	%	10 to 70	33	Pass
Force At 0 deg	N	0 - 26.7	0.0	Pass
Force At 20 deg	N	97.9 - 151.2	108.7	Pass
Force At 30 deg	N	151.2 - 204.6	165.4	Pass
Force At 40 deg	N	204.6 - 258.0	240.9	Pass
Return Angle	Deg	12 Maximum	4	Pass
		Overall Test Results		Pass

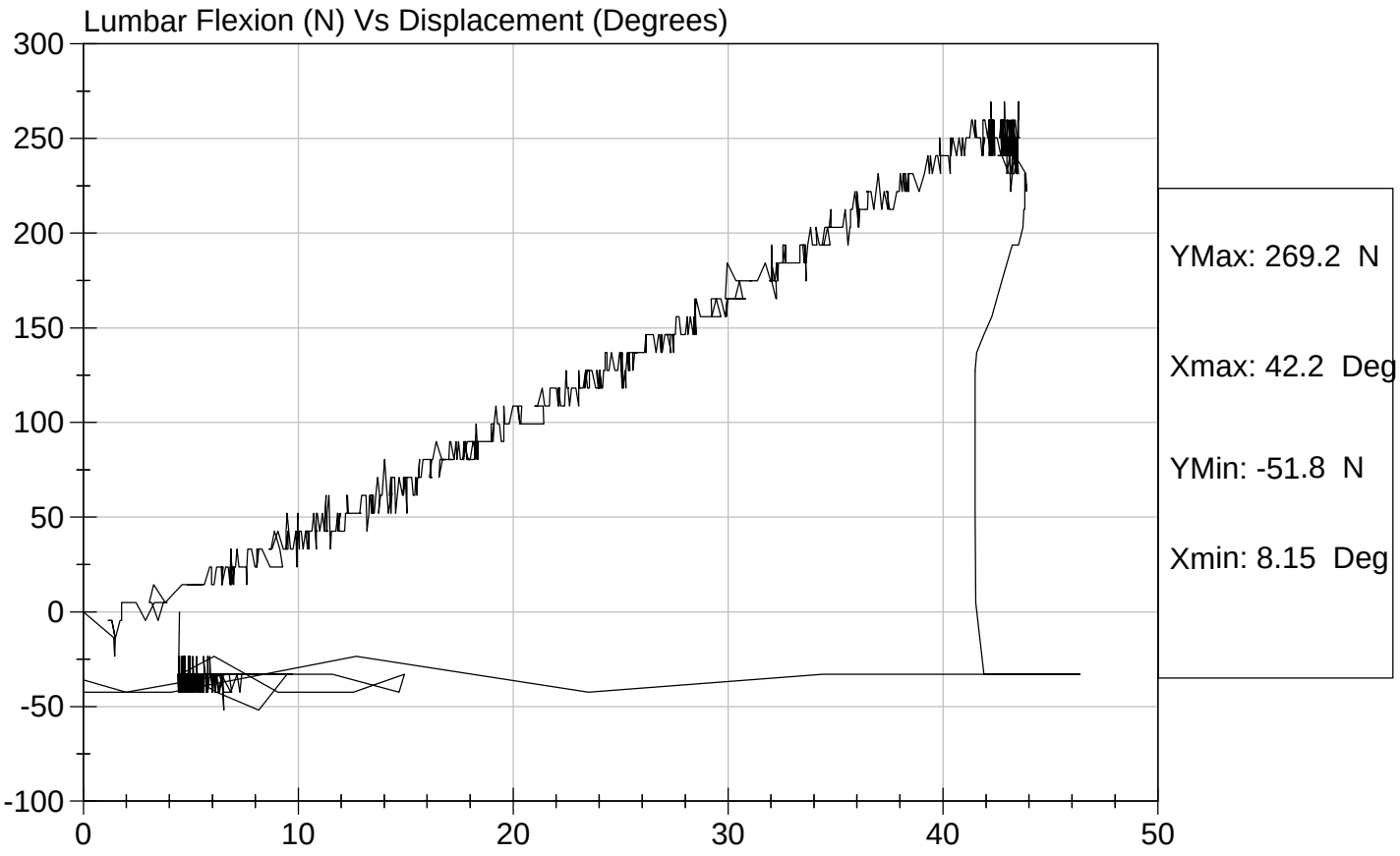
Jessica Gall
Laboratory Technician

02/20/2004
Test Date

Sujatika Naik
Approved By

Test Description: Lumbar Flexion | Test Date: 02/20/2004

Component: D04365 | Speed: 0 ft/sec, 0 m/sec



SID Calibration Data Sheet
Side Impact Dummy (SID)
Neck Pendulum Test

ATD Serial No: 904 **Test I.D:** D04369

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	21.8	Pass
Laboratory Relative Humidity		%	10 to 70	26	Pass
Impact Velocity		m/s	6.89 to 7.13	7.06	Pass
Pendulum Deceleration	10 msec	m/s	1.96 to 2.55	2.22	Pass
	20 msec	m/s	4.12 to 5.10	4.46	Pass
	30 msec	m/s	5.73 to 7.01	6.25	Pass
	40 to 70 msec	m/s	6.27 to 7.64	6.92	Pass
Midsaggital Plane Max Rotation		deg	66 to 82	74	Pass
Head Rotation Peak to Zero - Decay Time		msec	58 to 67	59	Pass
Max. Mx at Occipital Condyles		Nm	73 to 88	82	Pass
Mx Peak To Zero - Decay Time		msec	49 to 64	54	Pass
Mx Peak to Max. Head Rotation		msec	2 to 16	11	Pass

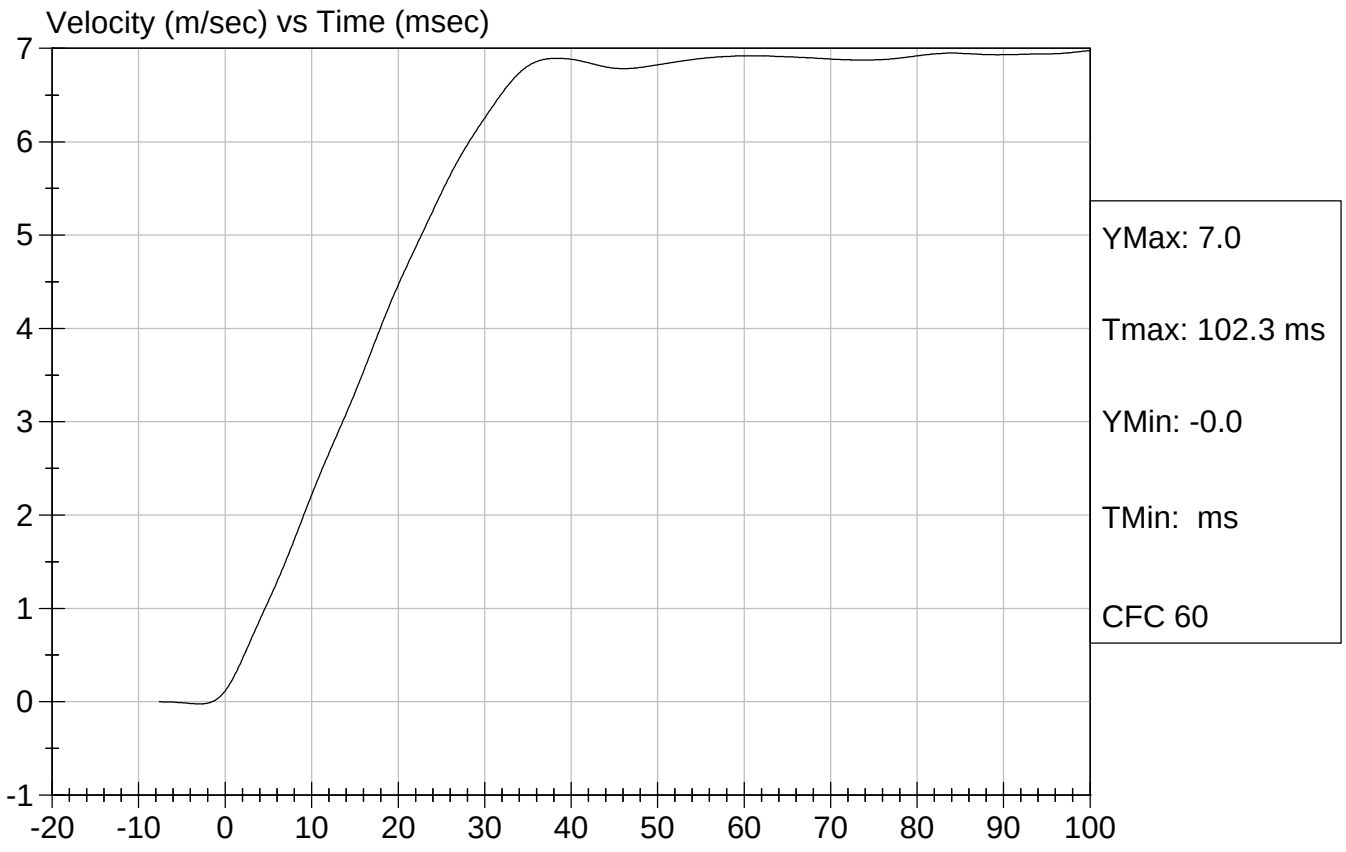
Jessica Gall
Laboratory Technician

02/19/2004
Test Date

Sujatika Naik
Approved By

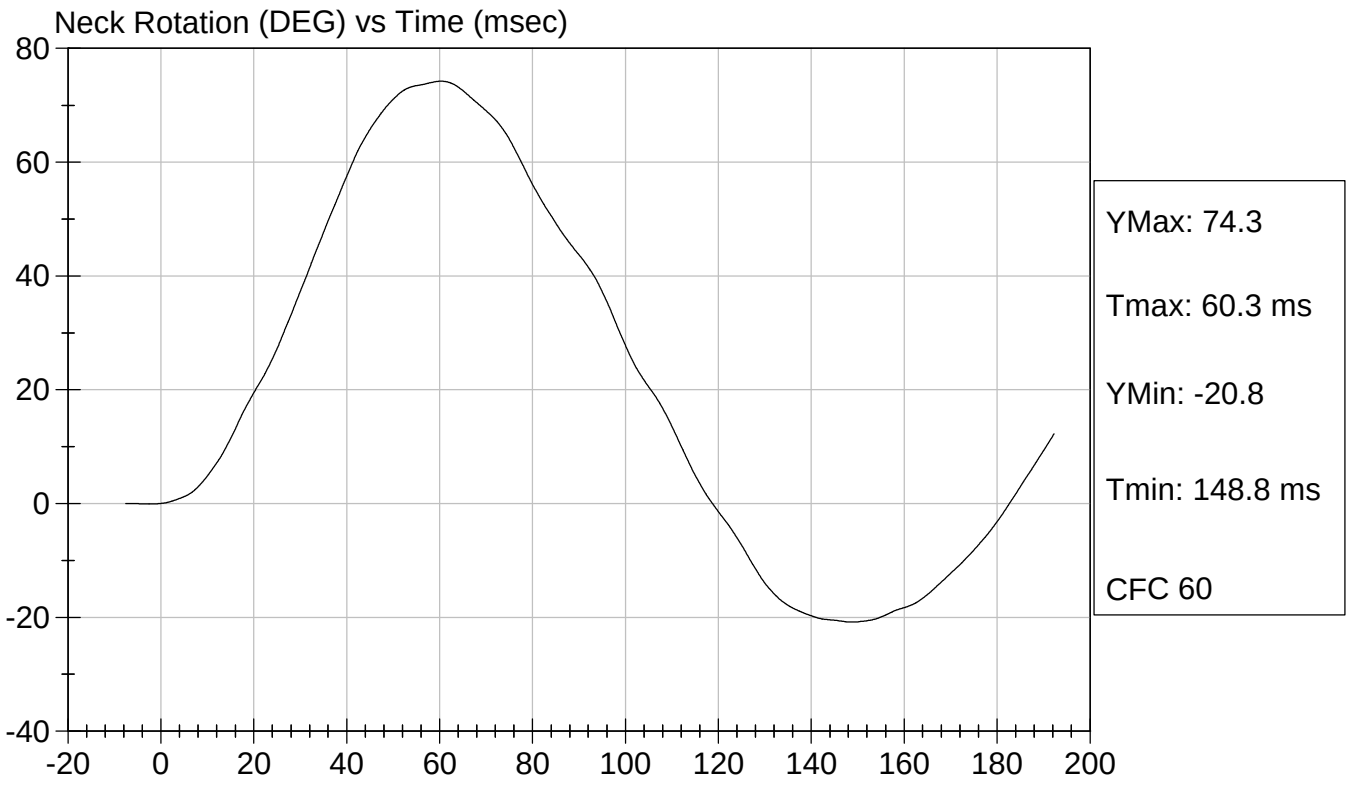
Test Desc: Neck Bending
Component ID: D04369

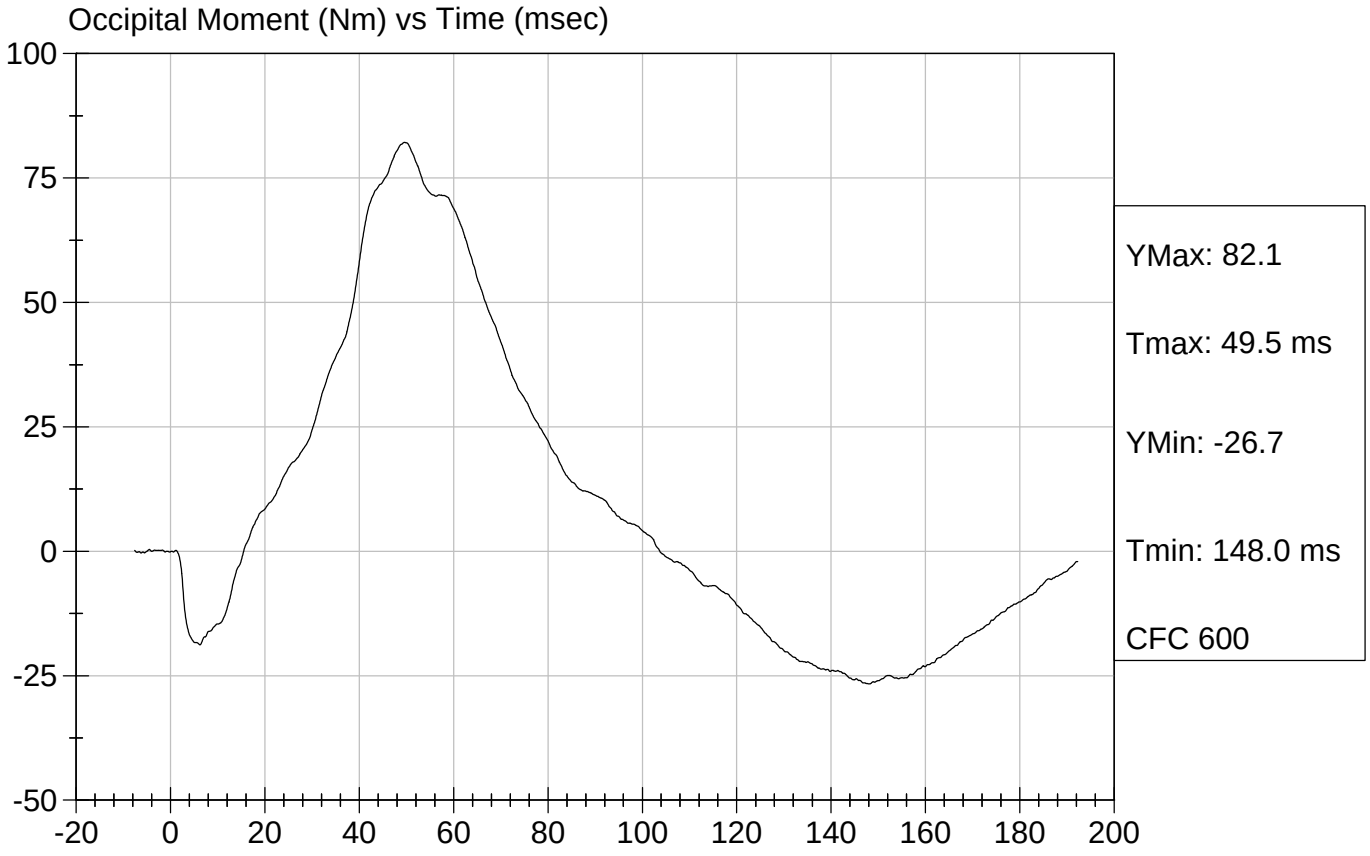
Test Date: 02/19/2004
Speed: 23.16 ft/sec, 7.06 m/sec



Test Desc: Neck Bending
Component ID: D04369

Test Date: 02/19/2004
Speed: 23.16 ft/sec, 7.06 m/sec





Calibration Test Results Summary

Dummy Serial Number: 904

Post-Test Calibration

External Dimensions:	The dummy passed all external dimension requirements.
Head Drop Test:	The head passed all drop test requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen passed all compression test requirements.
Lumbar Flexion Test:	The lumbar passed all flexion test requirements.

SID Calibration Data Sheet

Side Impact Dummy

Head Drop Calibration (Lateral)

ATD Serial No: 904 **Test I.D:** D04961

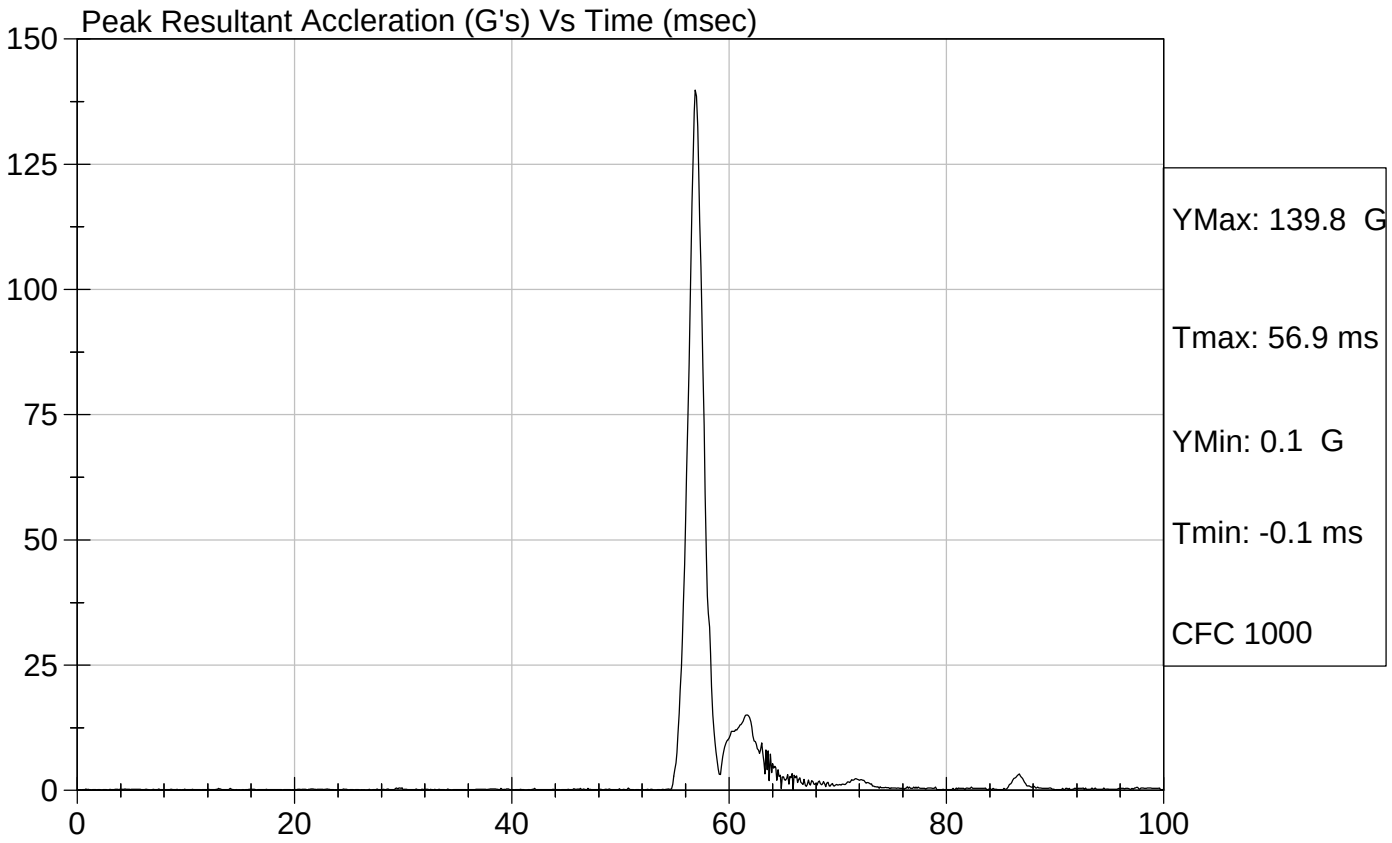
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	22.1	Pass
Laboratory Relative Humidity	%	10 to 70	33	Pass
Peak Resultant Acceleration	G's	120 to 150	140	Pass
Is Resultant Curve Unimodal?	Yes/No	15% of peak	Yes	Pass
Peak Longitudnal Acceleration	G's	+/- 15	-10	Pass
		Overall Test Results		Pass

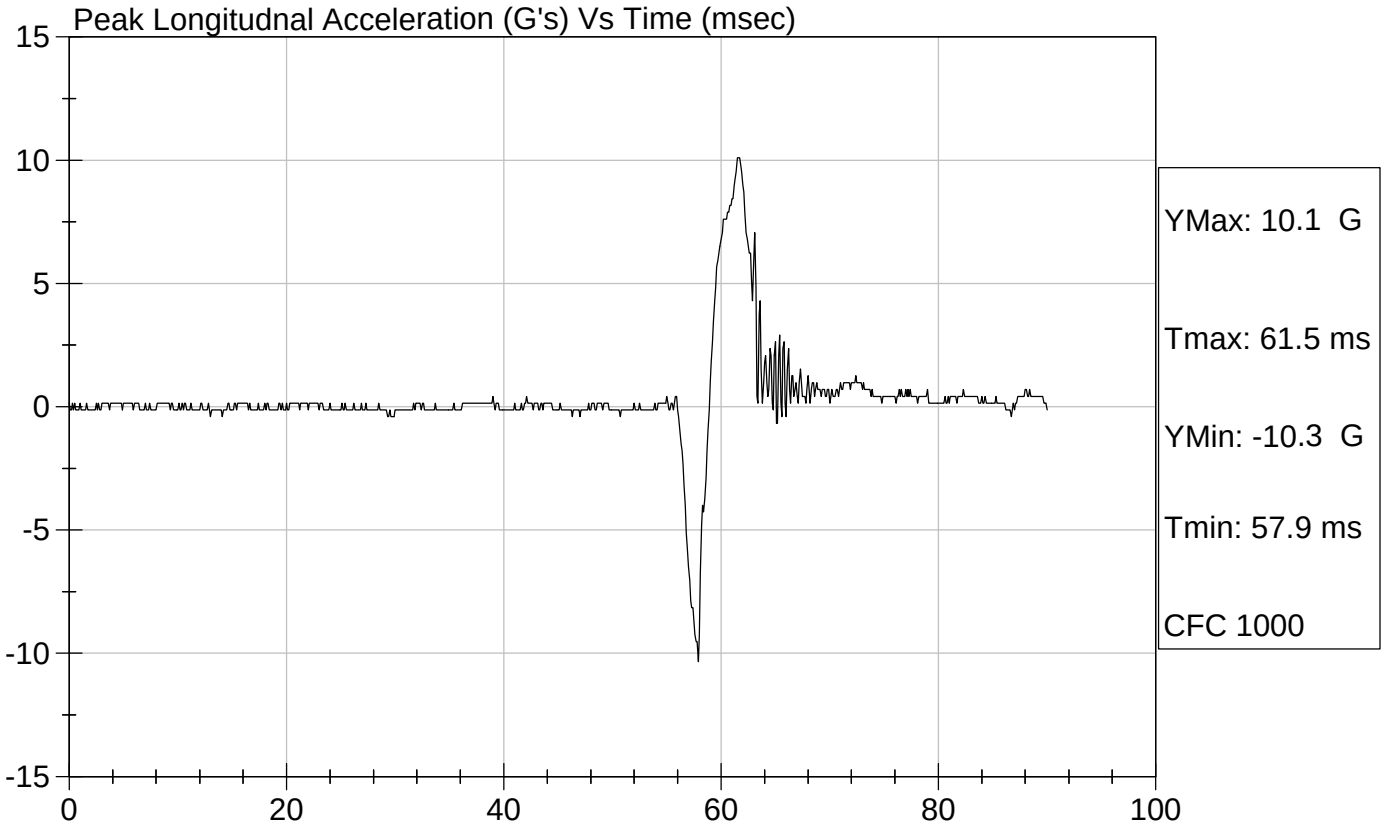
Jessica Gall
Laboratory Technician

04/26/2004
Test Date

Sujatika Naik
Approved By

	Test Description: Head Drop	Test Date: 04/26/2004
	Component: D04961	Speed: 0 ft/s, 0.00 m/s





SID Calibration Data Sheet

Side Impact Dummy

Thorax Impact Test

ATD Serial No: 904 **Test I.D:** D04962

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	22.0	Pass
Laboratory Relative Humidity	%	10 to 70	34	Pass
Probe Velocity	m/s	4.27 - 4.33	4.27	Pass
Upper Rib	G's	37 - 46	44	Pass
Lower Rib	G's	37 - 46	44	Pass
Lower Spine	G's	15 - 22	20	Pass
		Overall Test Results		Pass

Jessica Gall
Laboratory Technician

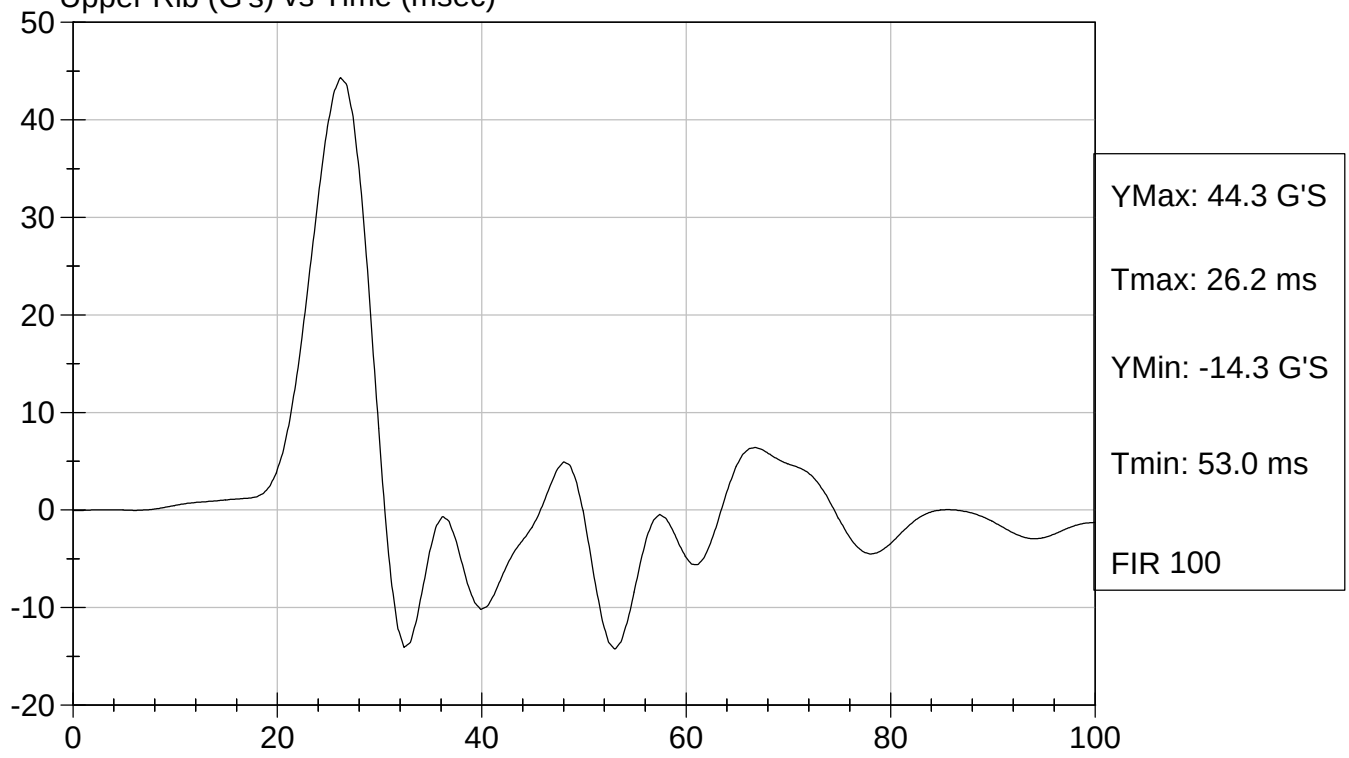
04/26/2004
Test Date

Sujatika Naik
Approved By

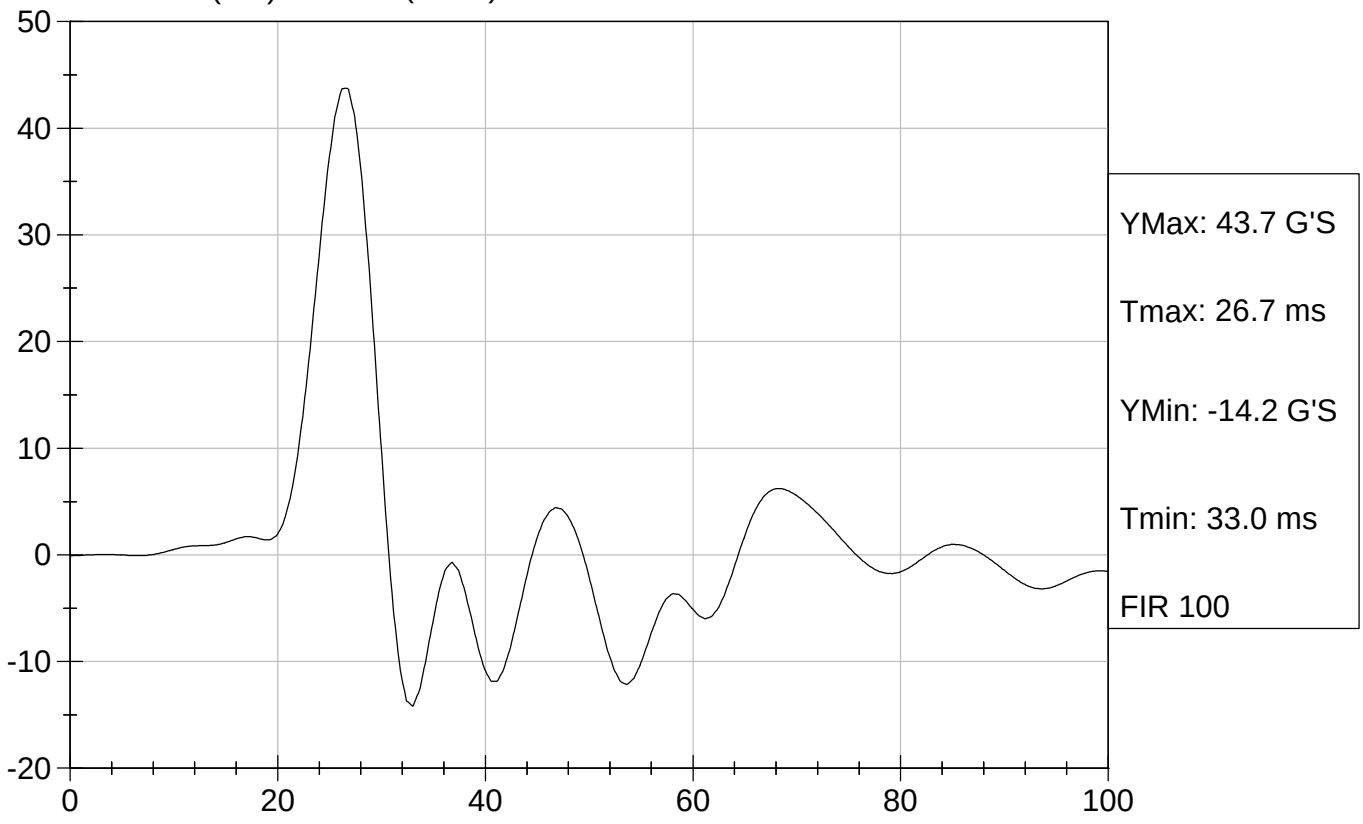
Test Desc: Thorax Impact
Component ID: D04962

Test Date: 04/26/2004
Speed: 14.0 ft/sec, 4.27 m/sec

Upper Rib (G's) vs Time (msec)

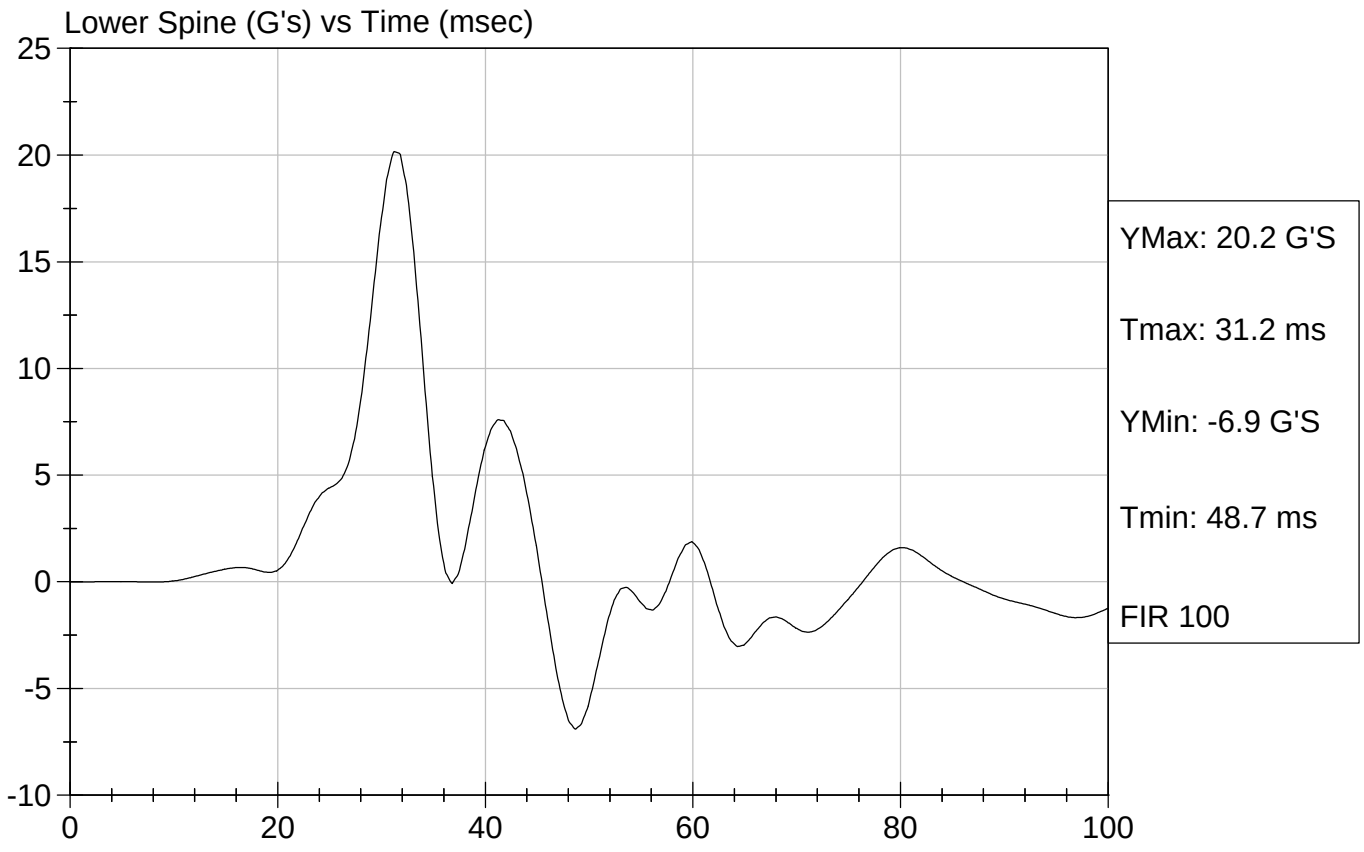


Lower Rib (G's) vs Time (msec)



Test Desc: Thorax Impact
Component ID: D04962

Test Date: 04/26/2004
Speed: 14.0 ft/sec, 0.00 m/sec



SID Calibration Data Sheet

Side Impact Dummy

Pelvis Impact Test

ATD Serial No: 904 **Test I.D:** D04963

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	22.0	Pass
Laboratory Relative Humidity	%	10 to 70	34	Pass
Probe Velocity	m/s	4.27 - 4.33	4.29	Pass
Pelvis Acceleration	G's	40 - 60	52	Pass
		Overall Test Results		Pass

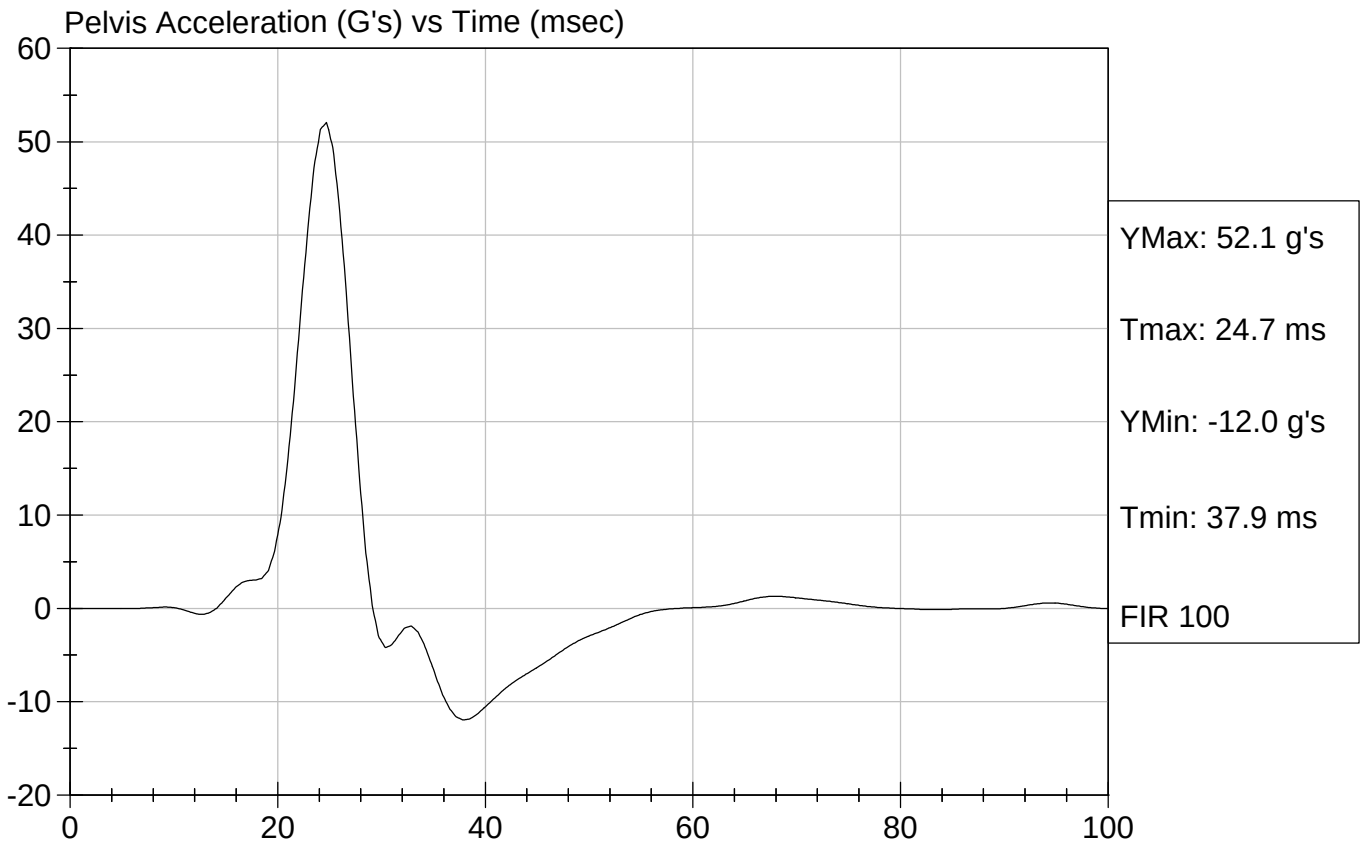
Jessica Gall
Laboratory Technician

04/26/2004
Test Date

Sujatika Naik
Approved By

Test Desc: Pelvis Impact
Component ID: D04963

Test Date: 04/26/2004
Speed: 14.09 ft/sec, 4.29 m/sec



SID Calibration Data Sheet

Side Impact Dummy

Abdominal Compression Calibration (Pre-Load = 10 lbs)

ATD Serial No: 904 **Test I.D:** D04964

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	22.0	Pass
Laboratory Relative Humidity	%	10 to 70	32	Pass
Force At 12.7 mm	N	104 -162	148	Pass
Force At 19 mm	N	163 - 222	207	Pass
Force At 25.4 mm	N	222 - 280	276	Pass
Force At 33 mm	N	325 - 391	384	Pass
		Overall Test Results		Pass

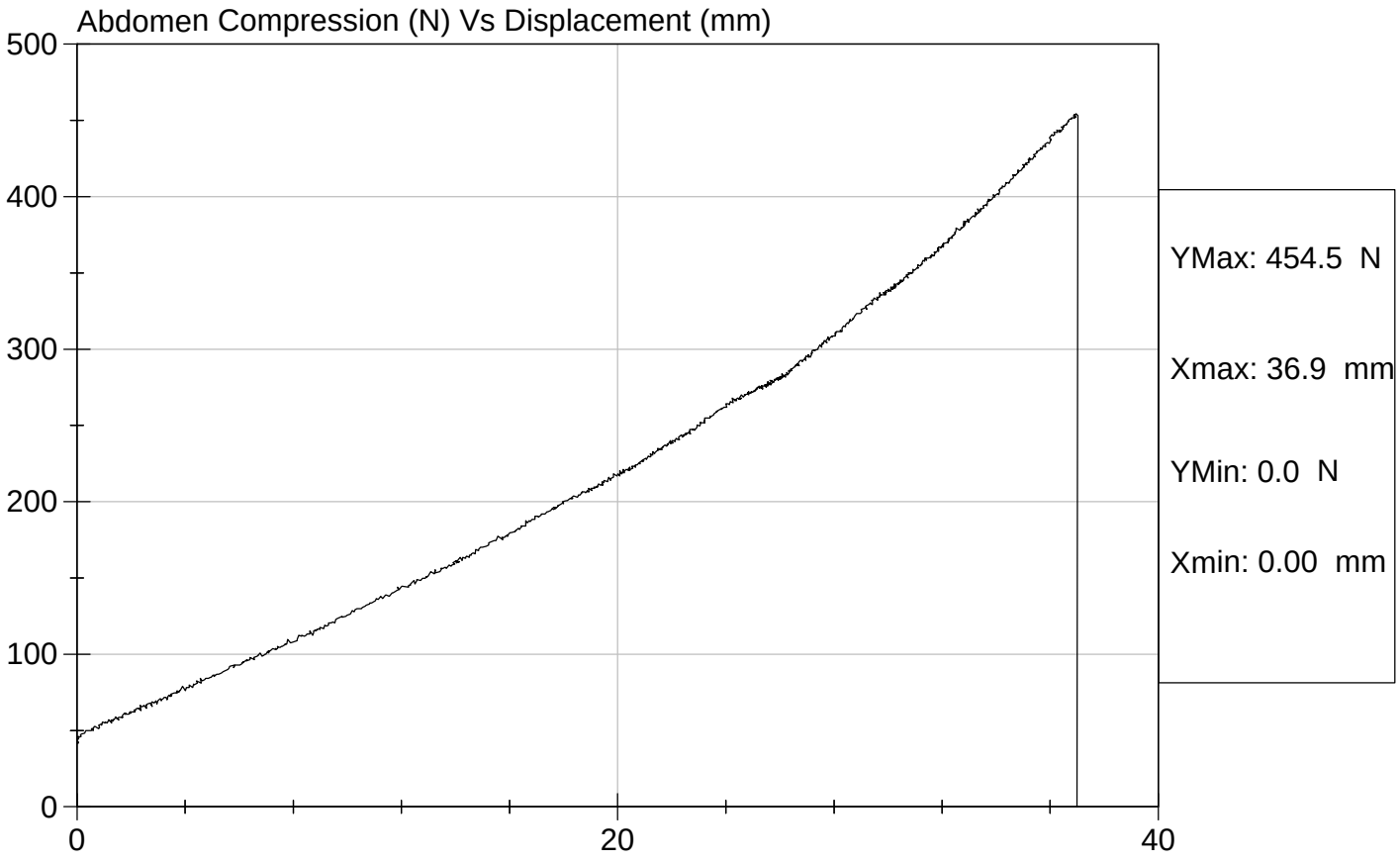
Jessica Gall
Laboratory Technician

04/26/2004
Test Date

Sujatika Naik
Approved By

Test Description: Abdomen Compression Test Date: 04/26/2004

Component: D04964 Speed: 0 ft/sec, 0 m/sec



SID Calibration Data Sheet

Side Impact Dummy

Lumbar Flexion Calibration

ATD Serial No: 904 **Test I.D:** D04965

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	22.0	Pass
Laboratory Relative Humidity	%	10 to 70	32	Pass
Force At 0 deg	N	0 - 26.7	0.0	Pass
Force At 20 deg	N	97.9 - 151.2	114.8	Pass
Force At 30 deg	N	151.2 - 204.6	161.8	Pass
Force At 40 deg	N	204.6 - 258.0	246.5	Pass
Return Angle	Deg	12 Maximum	3	Pass
		Overall Test Results		Pass

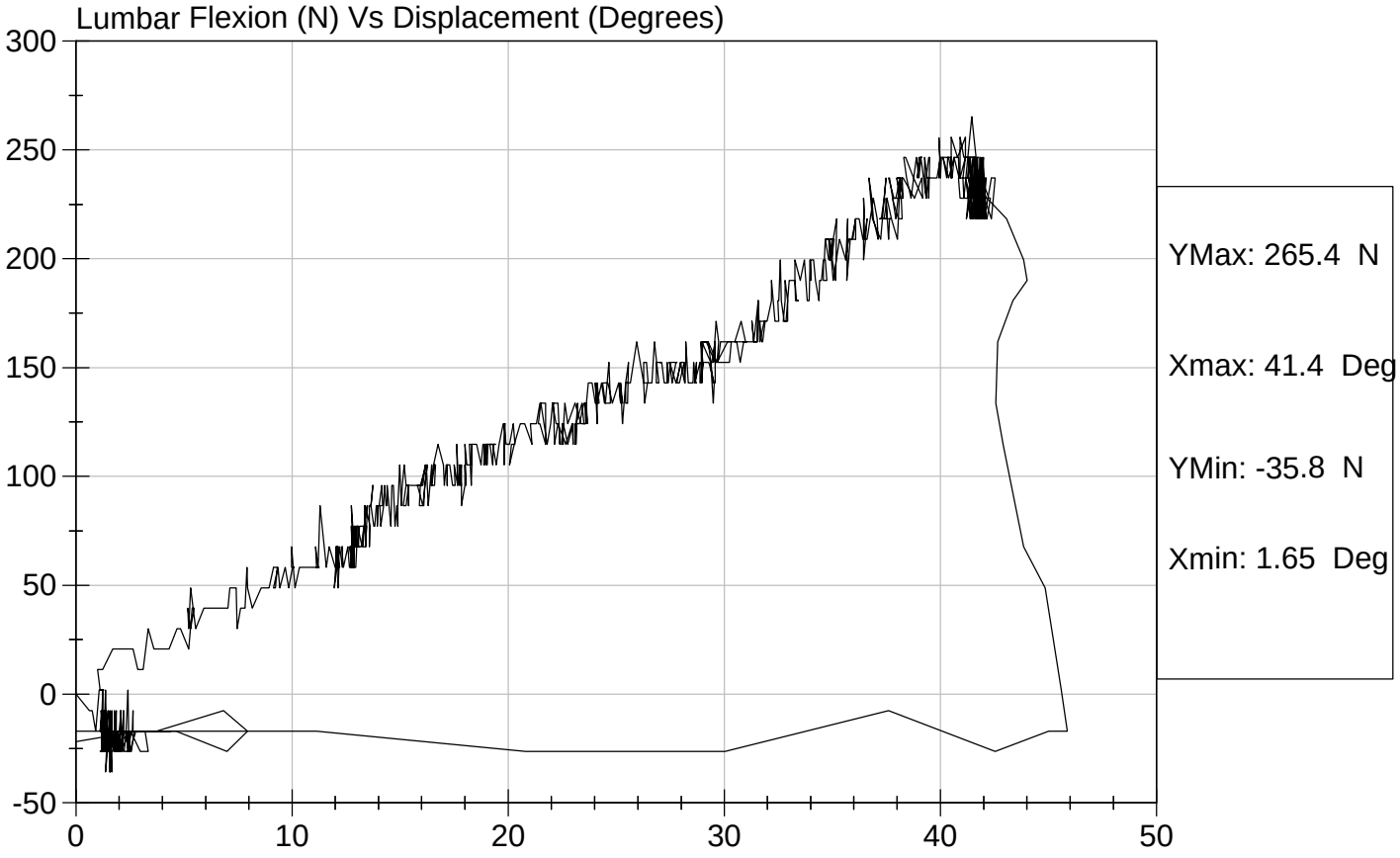
Jessica Gall
Laboratory Technician

04/26/2004
Test Date

Sujatha Naik
Approved By

Test Description: Lumbar Flexion | Test Date: 04/26/2004

Component: D04965 | Speed: 0 ft/sec, 0 m/sec



SID Calibration Data Sheet
Side Impact Dummy (SID)
Neck Pendulum Test

ATD Serial No: 904 **Test I.D:** D04969

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	22.0	Pass
Laboratory Relative Humidity		%	10 to 70	32	Pass
Impact Velocity		m/s	6.89 to 7.13	7.05	Pass
Pendulum Deceleration	10 msec	m/s	1.96 to 2.55	2.26	Pass
	20 msec	m/s	4.12 to 5.10	4.50	Pass
	30 msec	m/s	5.73 to 7.01	6.34	Pass
	40 to 70 msec	m/s	6.27 to 7.64	7.15	Pass
Midsaggital Plane Max Rotation		deg	66 to 82	72	Pass
Head Rotation Peak to Zero - Decay Time		msec	58 to 67	58	Pass
Max. Mx at Occipital Condyles		Nm	73 to 88	78	Pass
Mx Peak To Zero - Decay Time		msec	49 to 64	56	Pass
Mx Peak to Max. Head Rotation		msec	2 to 16	11	Pass

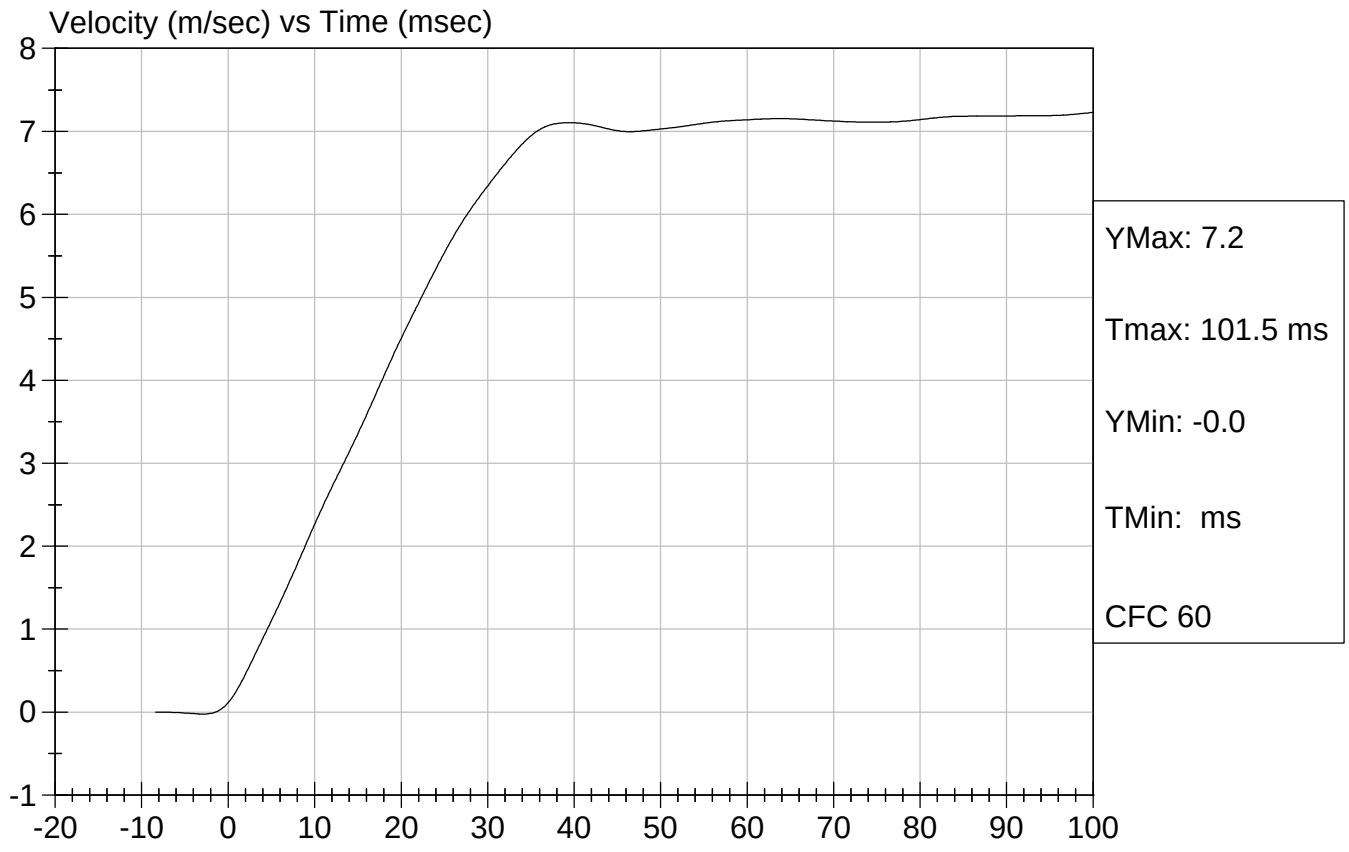
Jessica Gall
Laboratory Technician

04/26/2004
Test Date

Sujatika Naik
Approved By

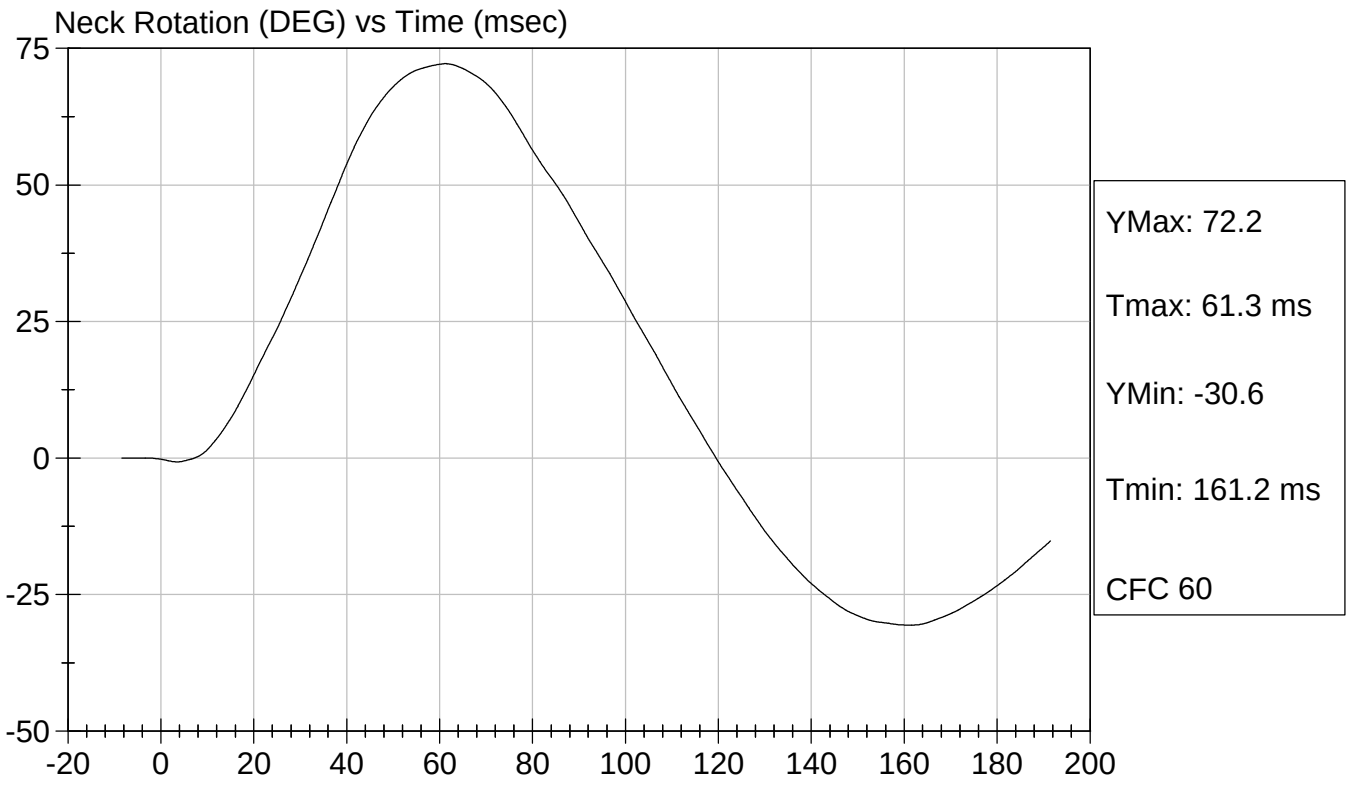
Test Desc: Neck Bending
Component ID: D04969

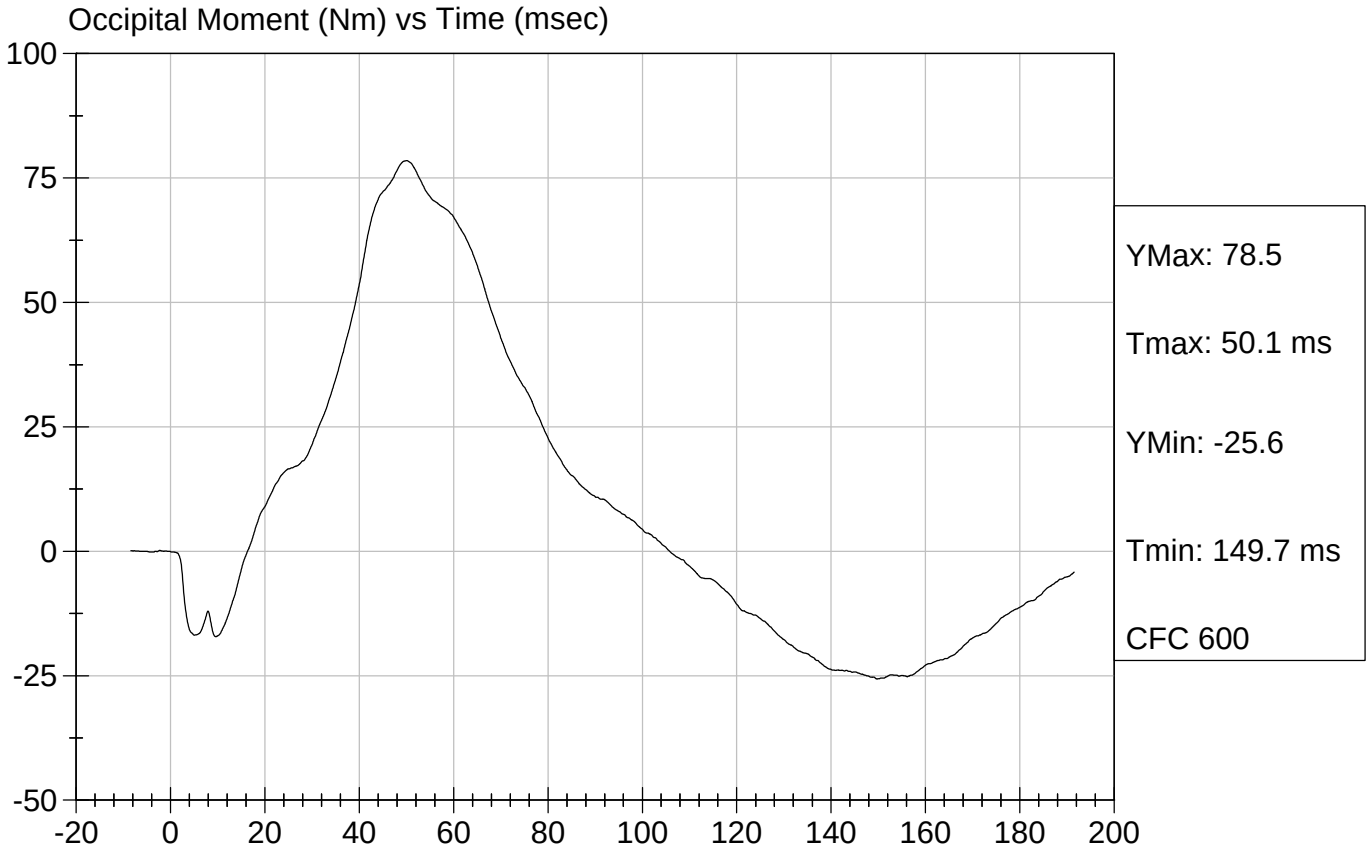
Test Date: 04/26/2004
Speed: 23.12 ft/sec, 7.05 m/sec



Test Desc: Neck Bending
Component ID: D04969

Test Date: 04/26/2004
Speed: 23.12 ft/sec, 7.05 m/sec





SID Calibration Data Sheet
Side Impact Dummy
Inspection Checklist

ATD Serial No: 904

Test Part	Items Checked	Result
Skin	Visual inspection	Pass
Head	Visual, ballast, accelerometer mount	Pass
Neck	Visual	Pass
Spine Box	Visual, ballast, accelerometer mount	Pass
Rib Cage	Visual, measure	Pass
Sternum	Visual	Pass
Lumbar Spine	Visual	Pass
Abdomen	Visual	Pass
Pelvis	Visual, palpate, accelerometer mount	Pass
Upper Legs	Visual	Pass
Knees	Visual	Pass
Lower Legs	Visual, range of motion	Pass
Ankles	Visual, range of motion	Pass
Feet	Visual, range of motion	Pass
Joints	1 to 2 g range	Pass
Other		Pass

Jessica Hall
Laboratory Technician

04/26/2004
Test Date

Sujatika Naik
Approved By

CERTIFICATION DATA

Dummy Serial Number: 271

Calibration Test Results Summary

Dummy Serial Number: 271

Pre-Test Calibration

External Dimensions:	The dummy passed all external dimension requirements.
Head Drop Test:	The head passed all drop test requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen passed all compression test requirements.
Lumbar Flexion Test:	The lumbar passed all flexion test requirements.

SID Calibration Data Sheet

Side Impact Dummy

External Measurements

ATD Serial No: 271 **Test I.D:** D0437

Tested Parameter	Units	Specification	Result	Pass/Fail
SH - Seated Height	mm	889 - 909	905	Pass
RH - Rib Height	mm	501 - 521	502	Pass
HP - Hip Pivot Height	mm	99 ref.	99	Pass
RD - Rib from Back Line	mm	229 - 241	239	Pass
KV - Knee Pivot to Back Line	mm	511 - 526	526	Pass
SW - Knee Pivot to Floor	mm	490 - 505	497	Pass
HW - Hip Width	mm	356 - 391	371	Pass
		Overall Test Results		Pass

Jessica Gall
Laboratory Technician

11/12/2003
Test Date

Sujatika Naik
Approved By

SID Calibration Data Sheet

Side Impact Dummy

Head Drop Calibration (Lateral)

ATD Serial No: 271 **Test I.D:** D04371

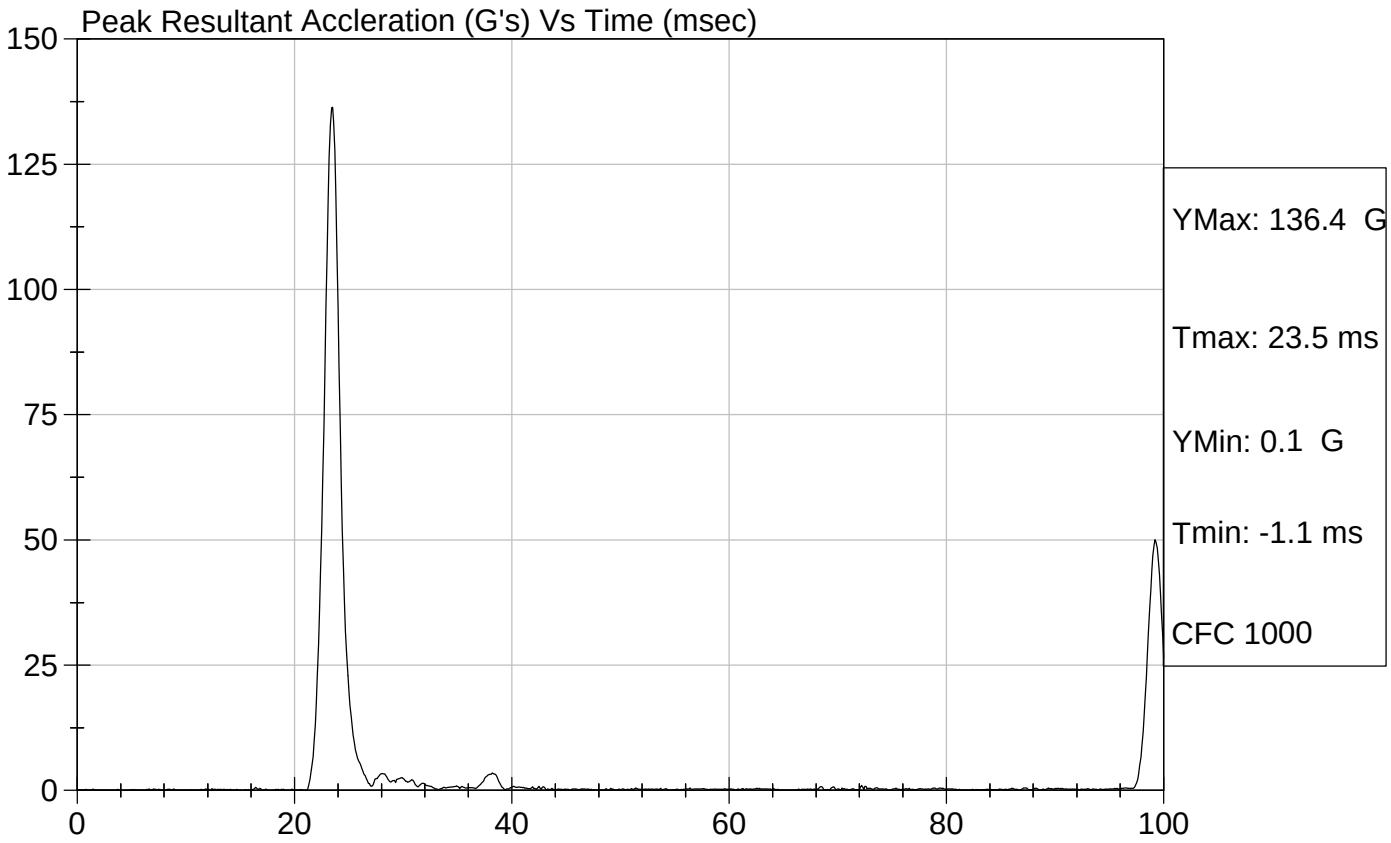
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	22.0	Pass
Laboratory Relative Humidity	%	10 to 70	33	Pass
Peak Resultant Acceleration	G's	120 to 150	136	Pass
Is Resultant Curve Unimodal?	Yes/No	15% of peak	Yes	Pass
Peak Longitudnal Acceleration	G's	+/- 15	-8	Pass
		Overall Test Results		Pass

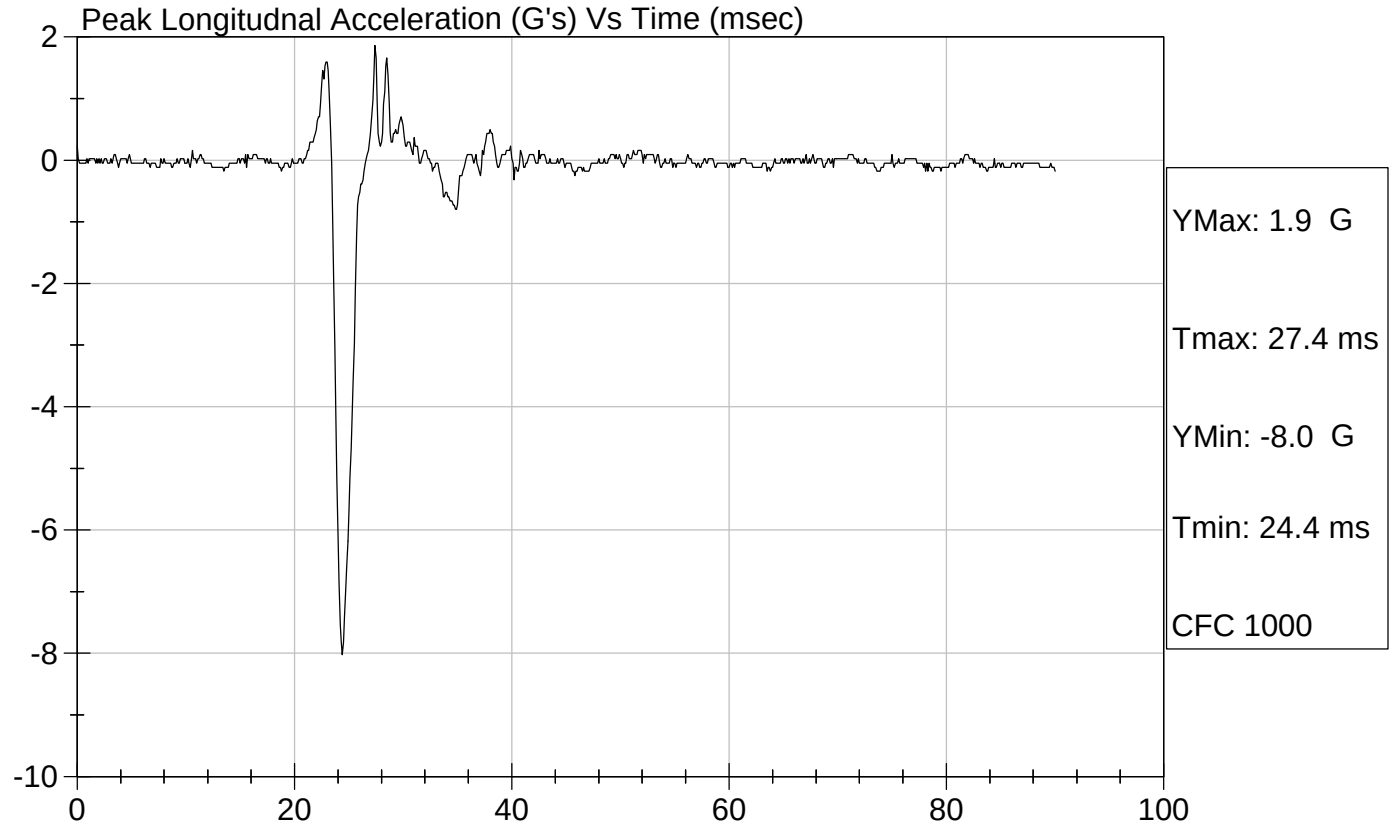
Jessica Gall
Laboratory Technician

02/20/2004
Test Date

Sreejarika Naik
Approved By

	Test Description: Head Drop	Test Date: 02/20/2004
	Component: D04371	Speed: 0 ft/s, 0.00 m/s





SID Calibration Data Sheet

Side Impact Dummy

Thorax Impact Test

ATD Serial No: 271 **Test I.D:** D04382

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	22.3	Pass
Laboratory Relative Humidity	%	10 to 70	25	Pass
Probe Velocity	m/s	4.27 - 4.33	4.31	Pass
Upper Rib	G's	37 - 46	41	Pass
Lower Rib	G's	37 - 46	40	Pass
Lower Spine	G's	15 - 22	18	Pass
		Overall Test Results		Pass

Jessica Gall
Laboratory Technician

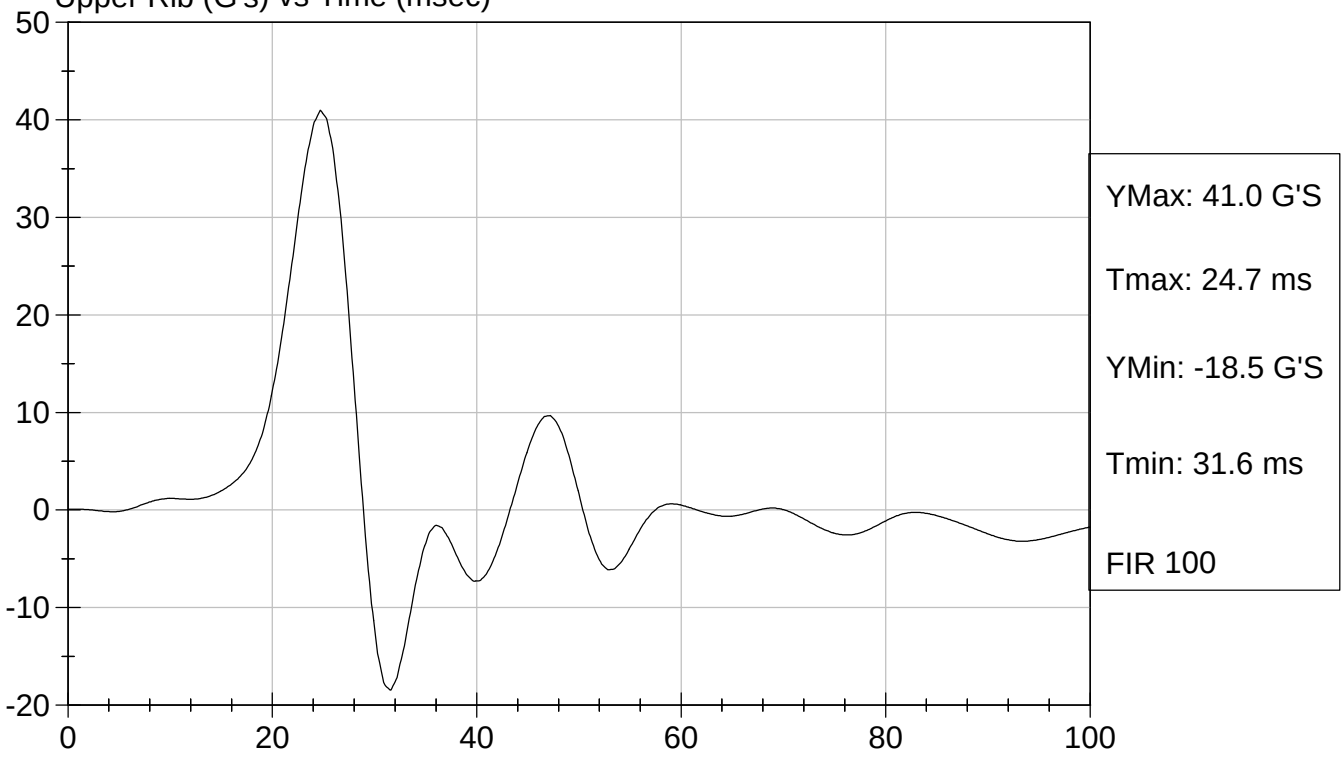
02/27/2004
Test Date

Shrutarika Naik
Approved By

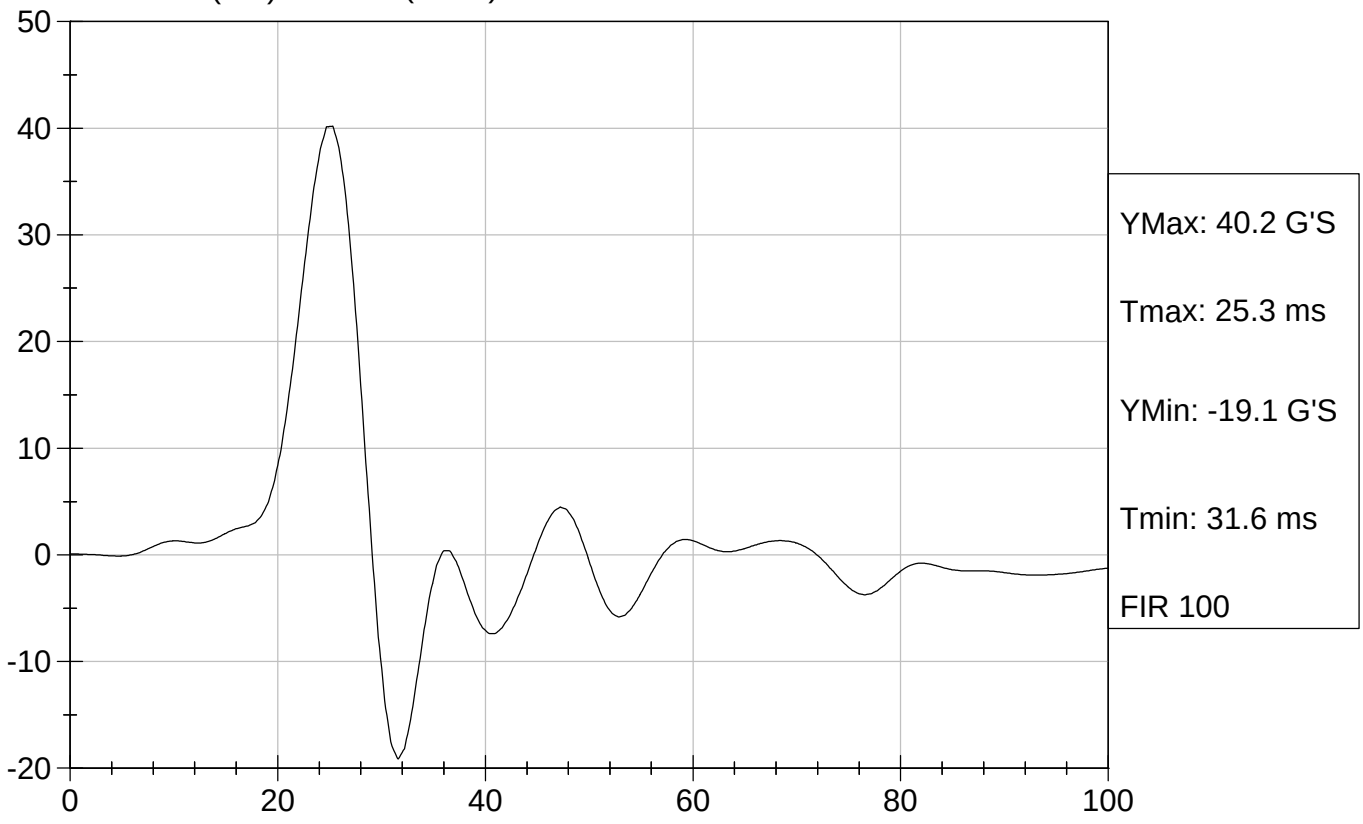
Test Desc: Thorax Impact
Component ID: D04382

Test Date: 02/27/2004
Speed: 14.14 ft/sec, 4.31 m/sec

Upper Rib (G's) vs Time (msec)

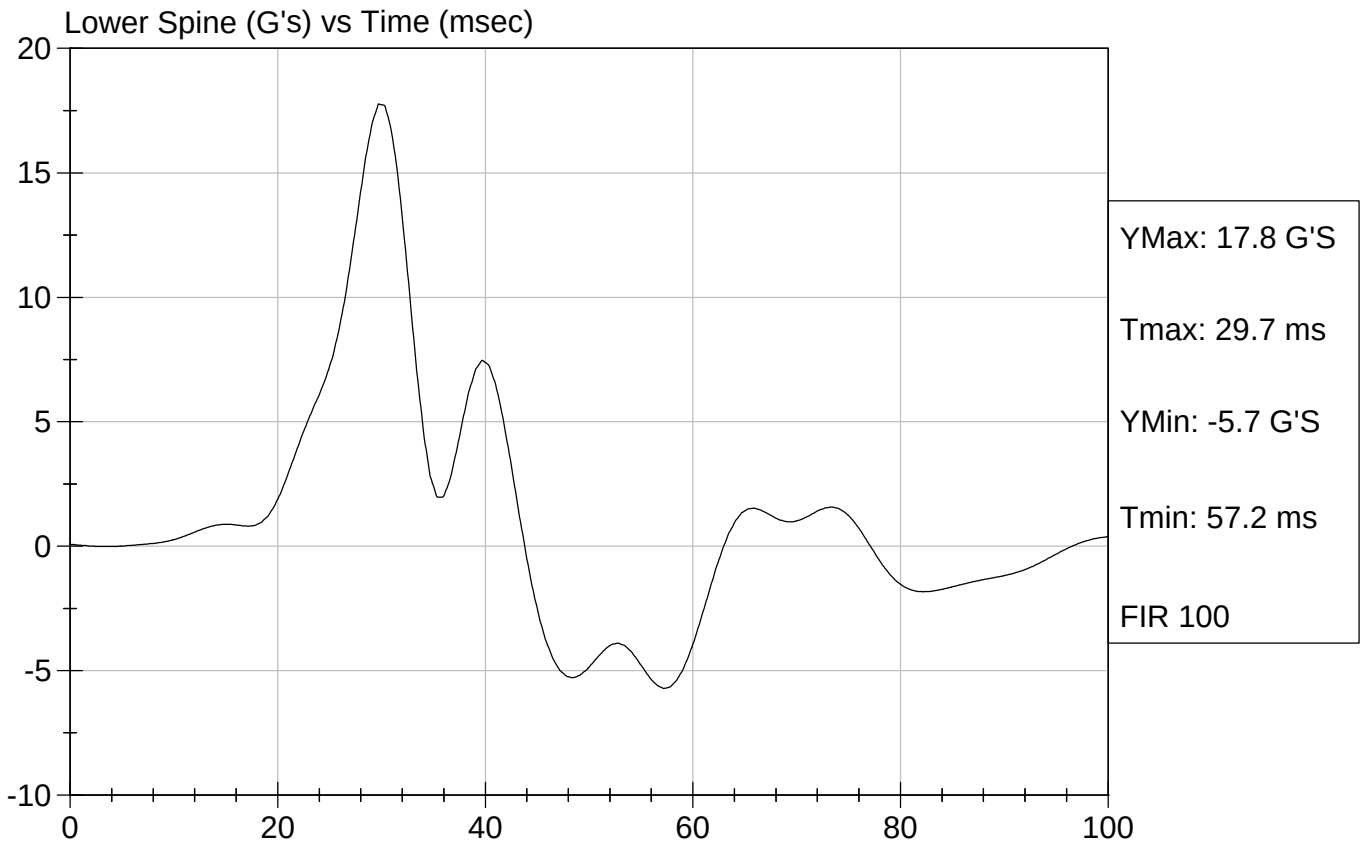


Lower Rib (G's) vs Time (msec)



Test Desc: Thorax Impact
Component ID: D04382

Test Date: 02/27/2004
Speed: 14.14 ft/sec, 0 m/sec



SID Calibration Data Sheet

Side Impact Dummy

Pelvis Impact Test

ATD Serial No: 271 **Test I.D:** D04373

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	26	Pass
Probe Velocity	m/s	4.27 - 4.33	4.30	Pass
Pelvis Acceleration	G's	40 - 60	50	Pass
		Overall Test Results		Pass

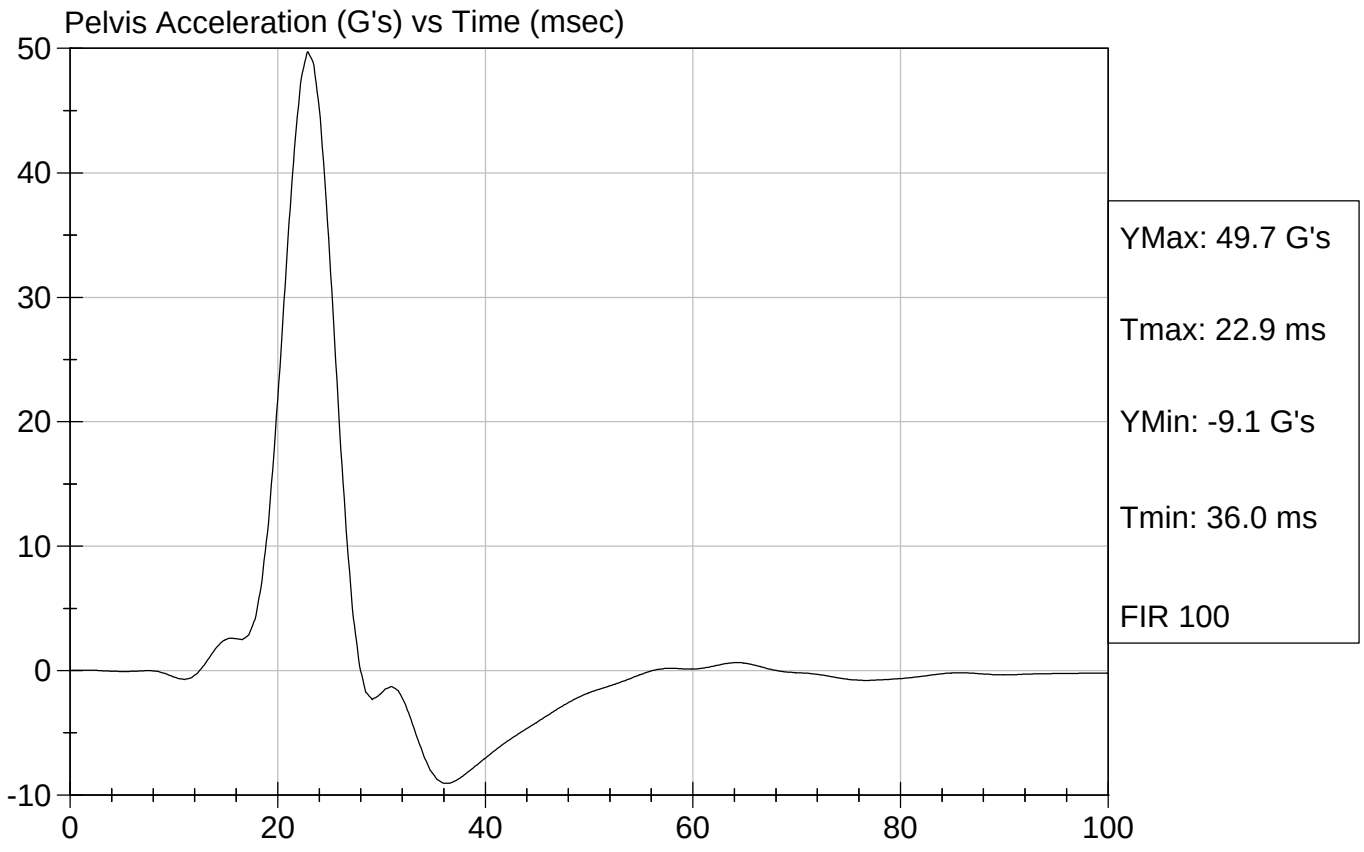
Jessica Gall
Laboratory Technician

02/19/2004
Test Date

Sujatha Naik
Approved By

Test Desc: Pelvis Impact
Component ID: D04373

Test Date: 02/19/2004
Speed: 14.11 ft/sec, 4.30 m/sec



SID Calibration Data Sheet

Side Impact Dummy

Abdominal Compression Calibration (Pre-Load = 10 lbs)

ATD Serial No: 271 **Test I.D:** D04374

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	22.0	Pass
Laboratory Relative Humidity	%	10 to 70	33	Pass
Force At 12.7 mm	N	104 -162	146	Pass
Force At 19 mm	N	163 - 222	200	Pass
Force At 25.4 mm	N	222 - 280	266	Pass
Force At 33 mm	N	325 - 391	357	Pass
		Overall Test Results		Pass

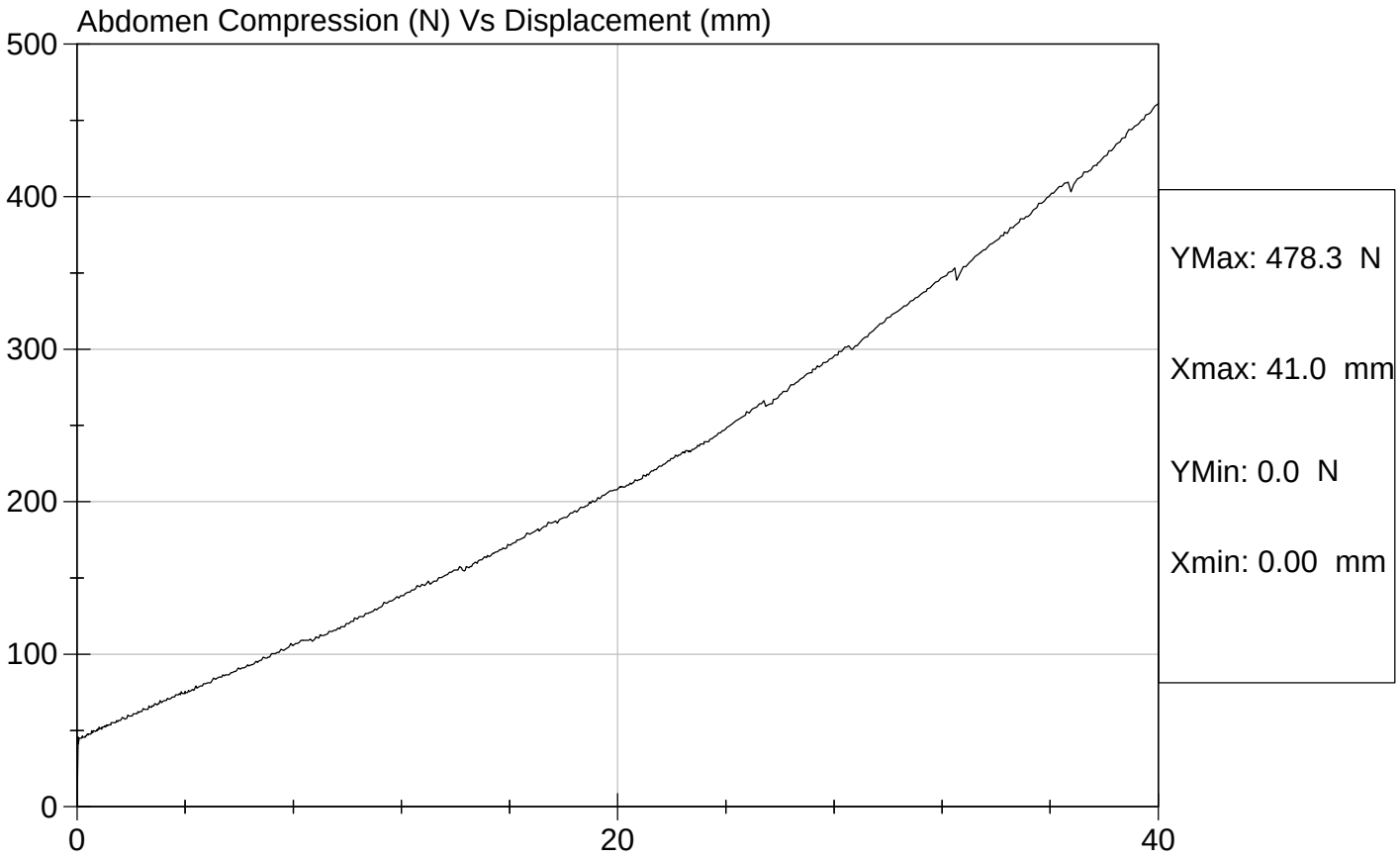
Jessica Gall
Laboratory Technician

02/20/2004
Test Date

Sujatika Naik
Approved By

Test Description: Abdomen Compression Test Date: 02/20/2004

Component: D04374 Speed: 0 ft/sec, 0 m/sec



SID Calibration Data Sheet

Side Impact Dummy

Lumbar Flexion Calibration

ATD Serial No: 271 **Test I.D:** D04385

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	22.3	Pass
Laboratory Relative Humidity	%	10 to 70	25	Pass
Force At 0 deg	N	0 - 26.7	0.0	Pass
Force At 20 deg	N	97.9 - 151.2	123.0	Pass
Force At 30 deg	N	151.2 - 204.6	170.2	Pass
Force At 40 deg	N	204.6 - 258.0	255.2	Pass
Return Angle	Deg	12 Maximum	6	Pass
		Overall Test Results		Pass

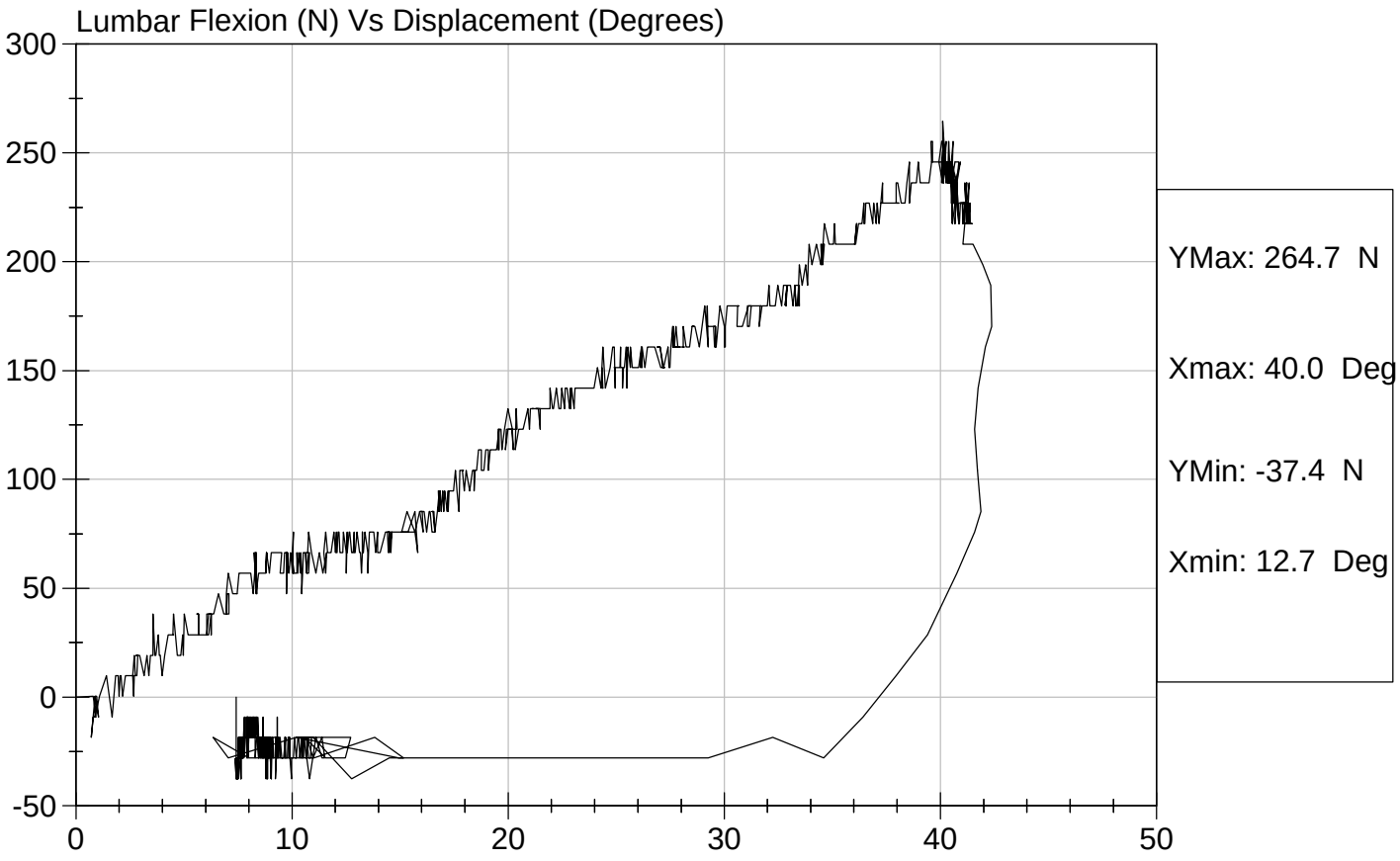
Jessica Gall
Laboratory Technician

02/27/2004
Test Date

Sreejarika Naik
Approved By

Test Description: Lumbar Flexion | Test Date: 02/27/2004

Component: D04385 | Speed: 0 ft/sec, 0 m/sec



SID Calibration Data Sheet
Side Impact Dummy (SID)
Neck Pendulum Test

ATD Serial No: 271 **Test I.D:** D04379

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	21.8	Pass
Laboratory Relative Humidity		%	10 to 70	26	Pass
Impact Velocity		m/s	6.89 to 7.13	7.04	Pass
Pendulum Deceleration	10 msec	m/s	1.96 to 2.55	2.28	Pass
	20 msec	m/s	4.12 to 5.10	4.52	Pass
	30 msec	m/s	5.73 to 7.01	6.35	Pass
	40 to 70 msec	m/s	6.27 to 7.64	7.01	Pass
Midsaggital Plane Max Rotation		deg	66 to 82	72	Pass
Head Rotation Peak to Zero - Decay Time		msec	58 to 67	60	Pass
Max. Mx at Occipital Condyles		Nm	73 to 88	77	Pass
Mx Peak To Zero - Decay Time		msec	49 to 64	57	Pass
Mx Peak to Max. Head Rotation		msec	2 to 16	11	Pass

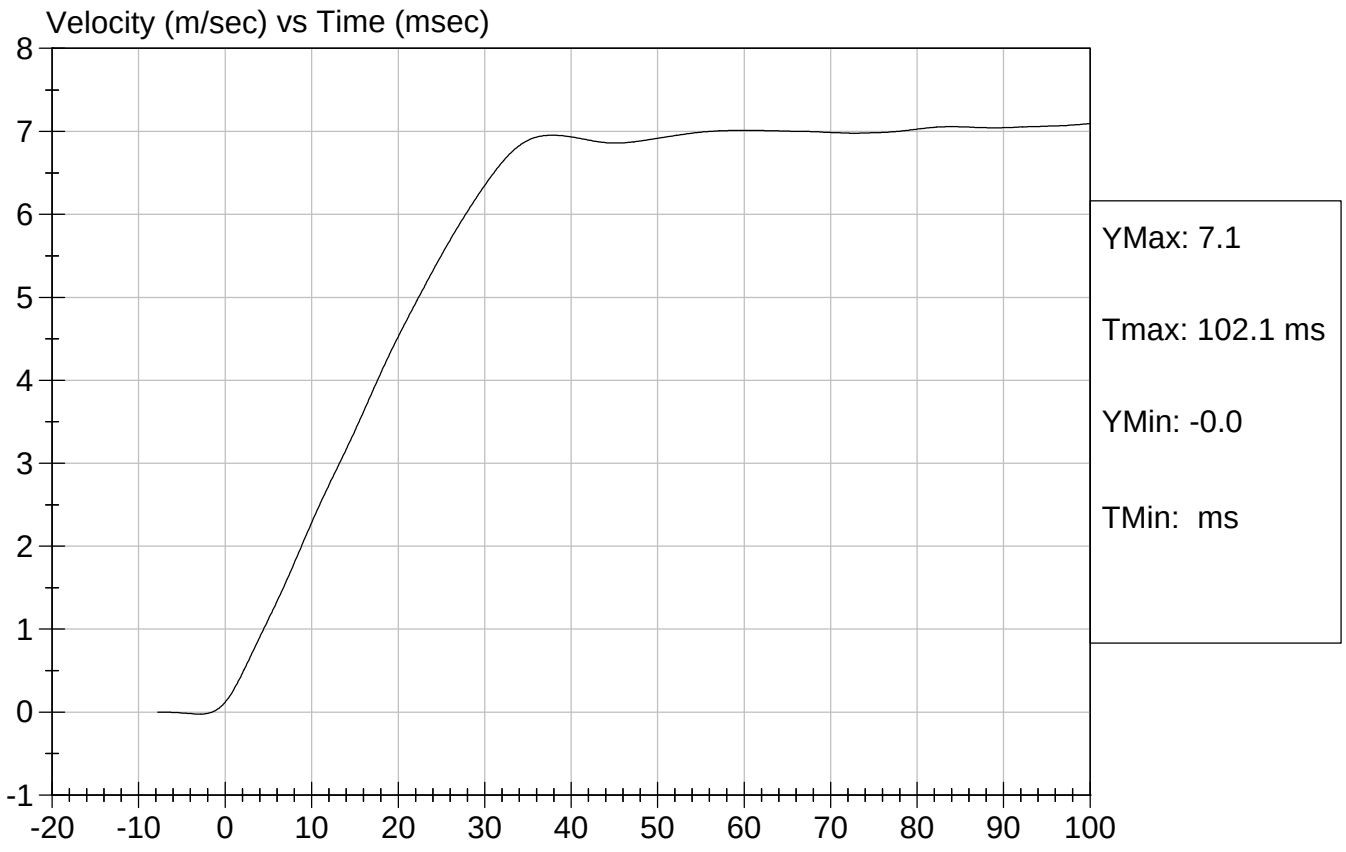
Jessica Gall
Laboratory Technician

02/19/2004
Test Date

Sujatika Naik
Approved By

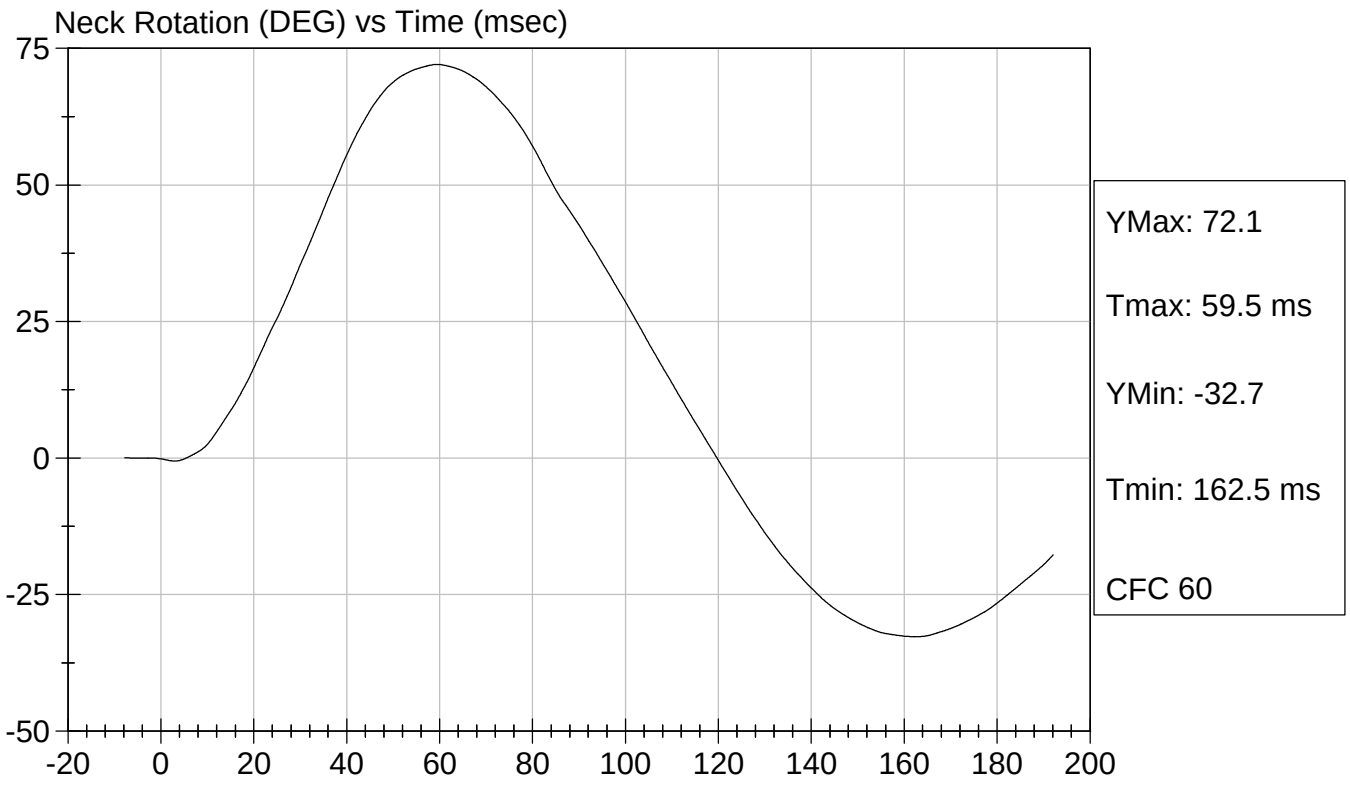
Test Desc: Neck Bending
Component ID: D04379

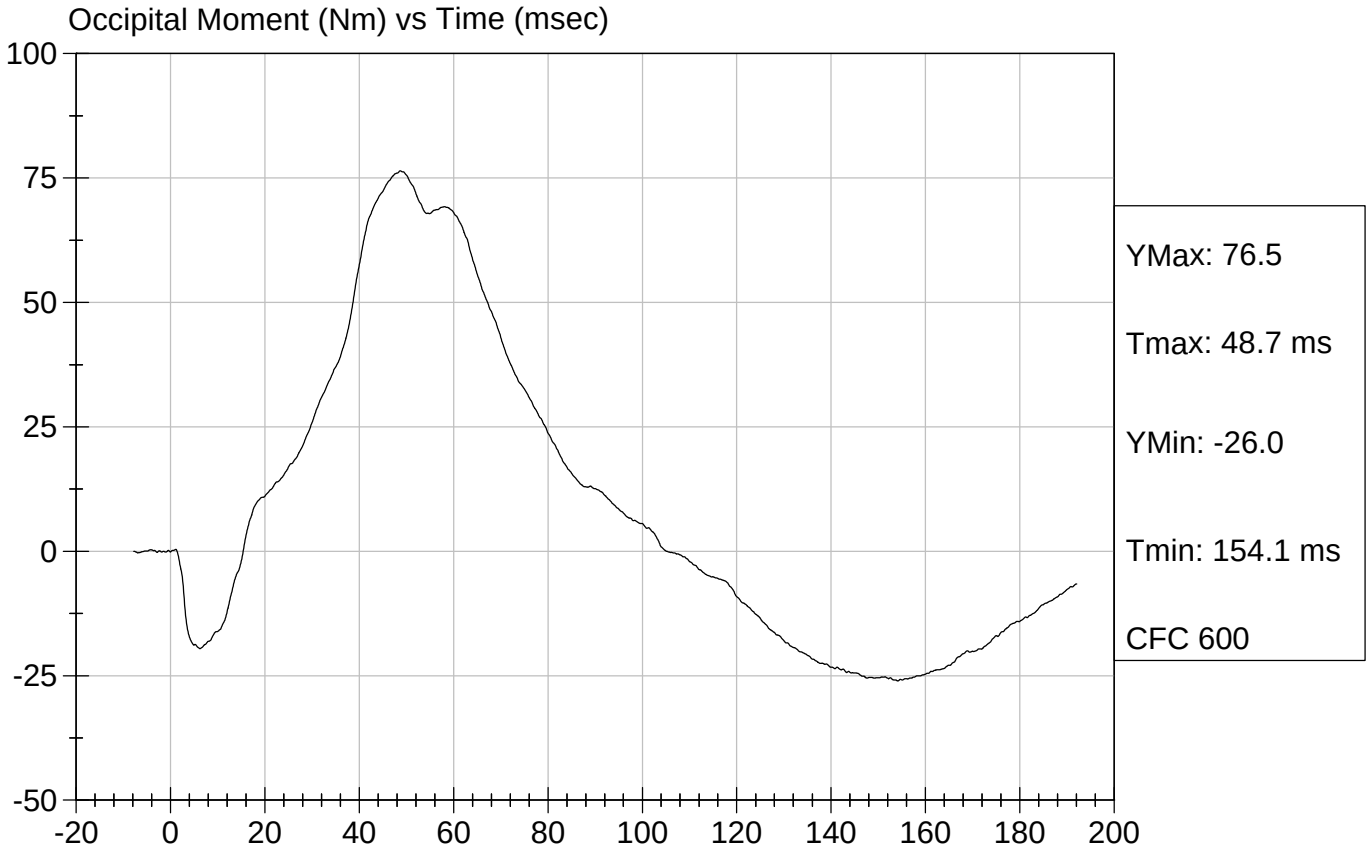
Test Date: 02/19/2004
Speed: 23.09 ft/sec, 7.04 m/sec



Test Desc: Neck Bending
Component ID: D04379

Test Date: 02/19/2004
Speed: 23.09 ft/sec, 7.04 m/sec





Calibration Test Results Summary

Dummy Serial Number: 271

Post-Test Calibration

External Dimensions:	The dummy passed all external dimension requirements.
Head Drop Test:	The head passed all drop test requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen passed all compression test requirements.
Lumbar Flexion Test:	The lumbar passed all flexion test requirements.

SID Calibration Data Sheet

Side Impact Dummy

Head Drop Calibration (Lateral)

ATD Serial No: 271 **Test I.D:** D04951

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	22.1	Pass
Laboratory Relative Humidity	%	10 to 70	33	Pass
Peak Resultant Acceleration	G's	120 to 150	124	Pass
Is Resultant Curve Unimodal?	Yes/No	15% of peak	Yes	Pass
Peak Longitudnal Acceleration	G's	+/- 15	-9	Pass
		Overall Test Results		Pass

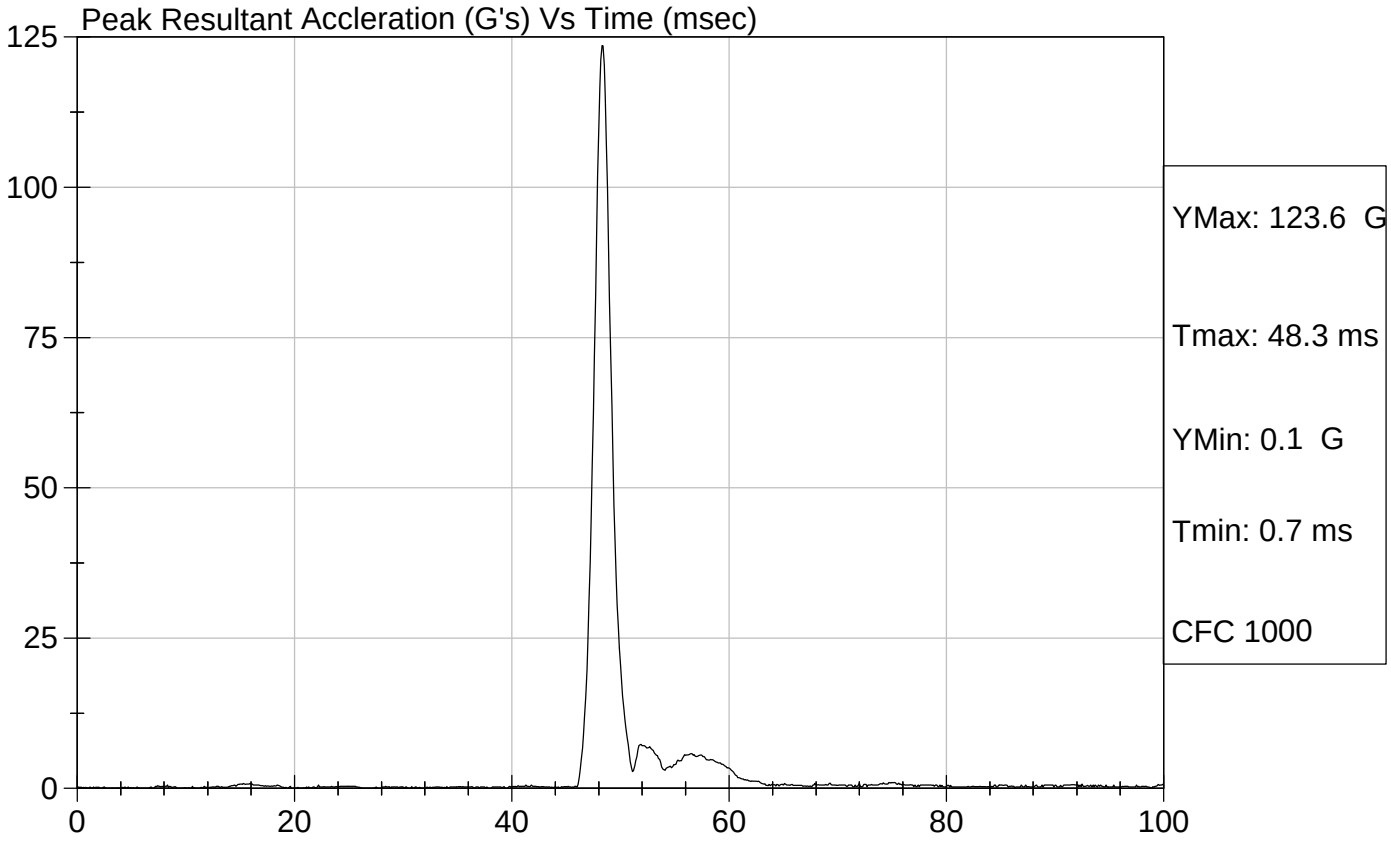
Jessica Gall
Laboratory Technician

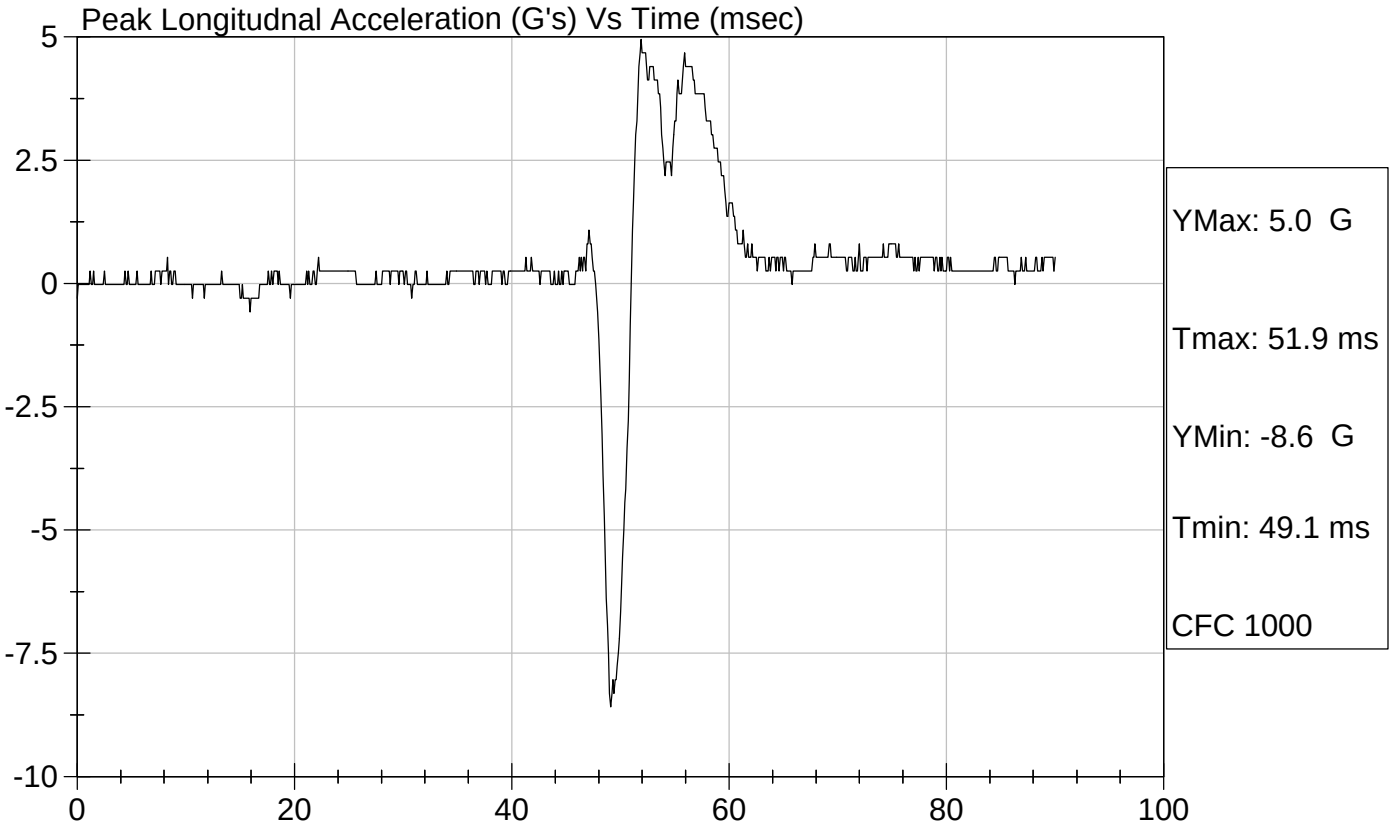
04/26/2004
Test Date

Sujatika Naik
Approved By

Test Description: Head Drop | Test Date: 04/26/2004

Component: D04951 | Speed: 0 ft/s, 0.00 m/s





SID Calibration Data Sheet

Side Impact Dummy

Thorax Impact Test

ATD Serial No: 271 **Test I.D:** D04952

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	22.0	Pass
Laboratory Relative Humidity	%	10 to 70	34	Pass
Probe Velocity	m/s	4.27 - 4.33	4.28	Pass
Upper Rib	G's	37 - 46	41	Pass
Lower Rib	G's	37 - 46	41	Pass
Lower Spine	G's	15 - 22	19	Pass
		Overall Test Results		Pass

Jessica Gall
Laboratory Technician

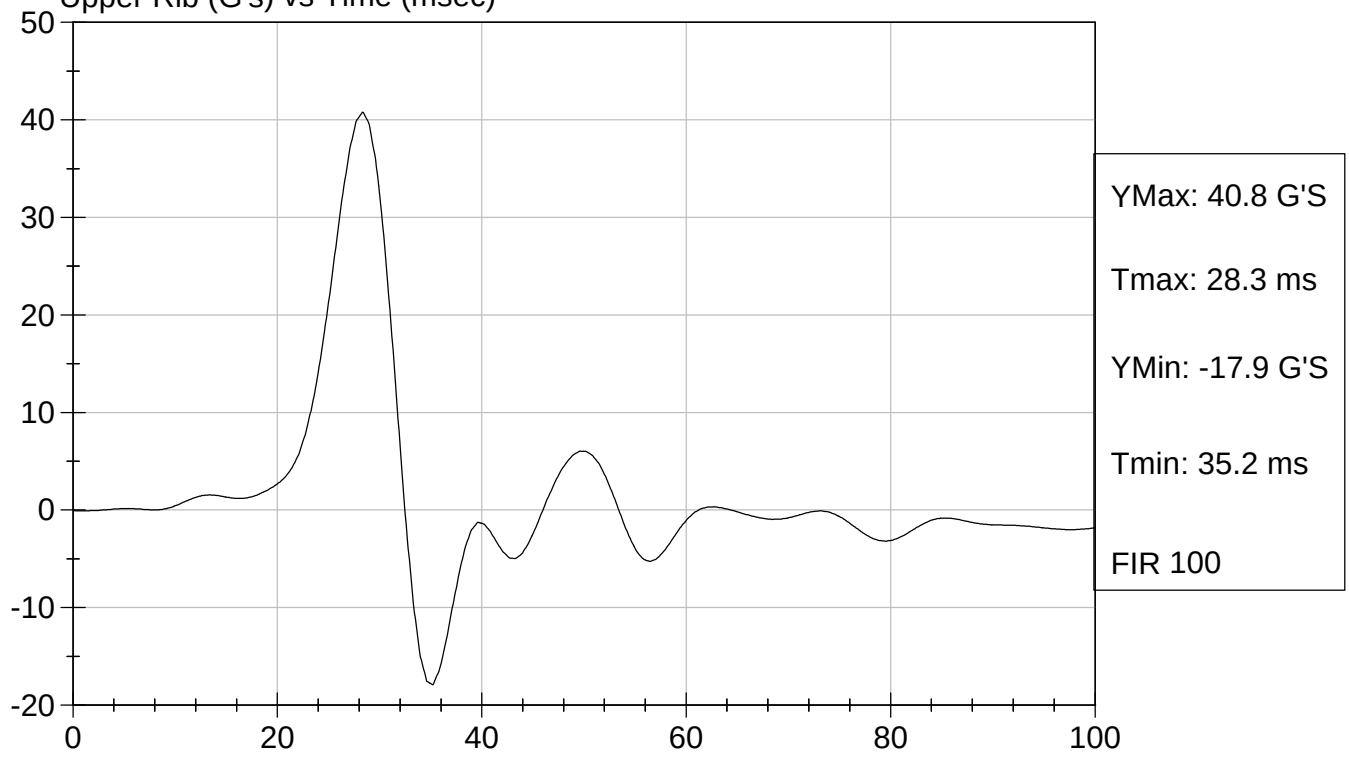
04/26/2004
Test Date

Sujatika Naik
Approved By

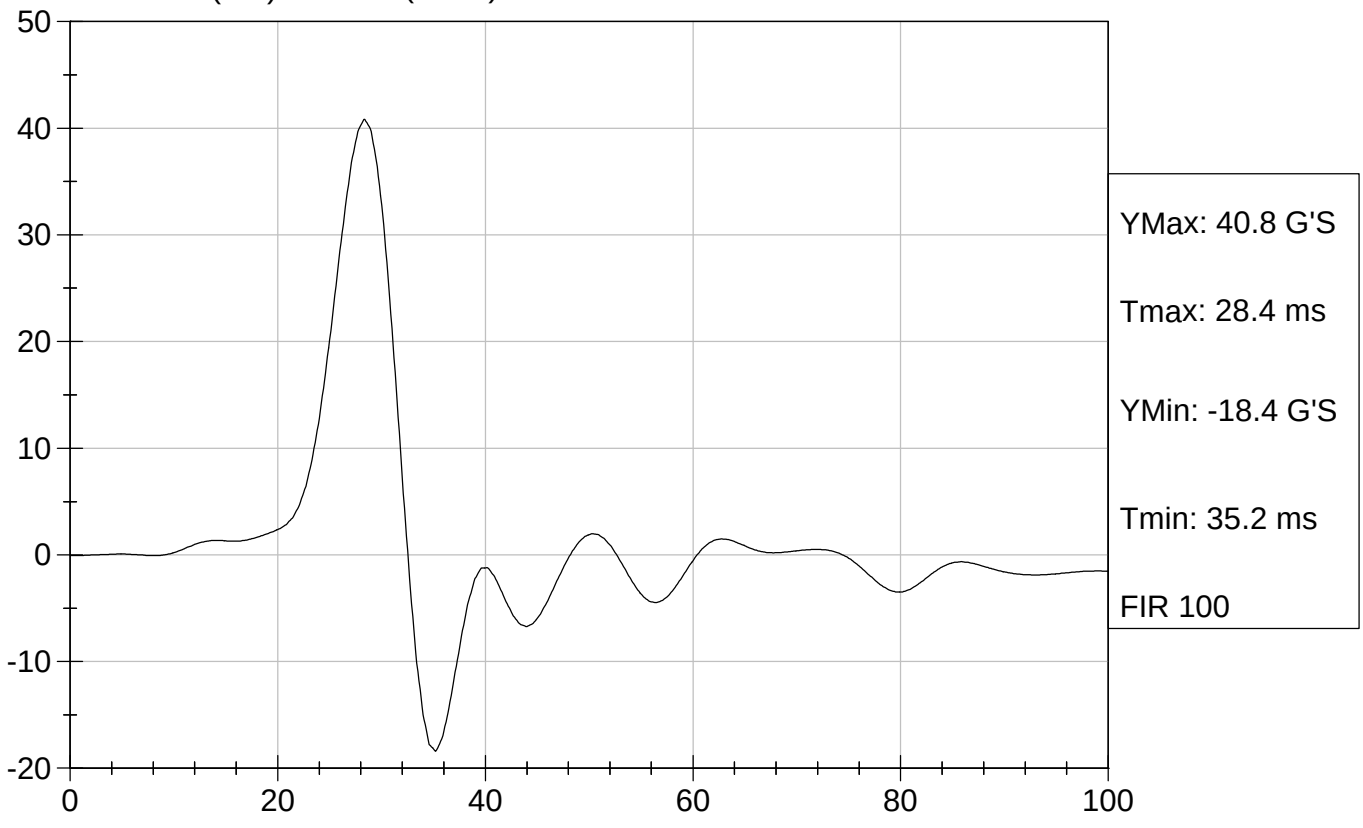
Test Desc: Thorax Impact
Component ID: D04952

Test Date: 04/26/2004
Speed: 14.05 ft/sec, 4.28 m/sec

Upper Rib (G's) vs Time (msec)

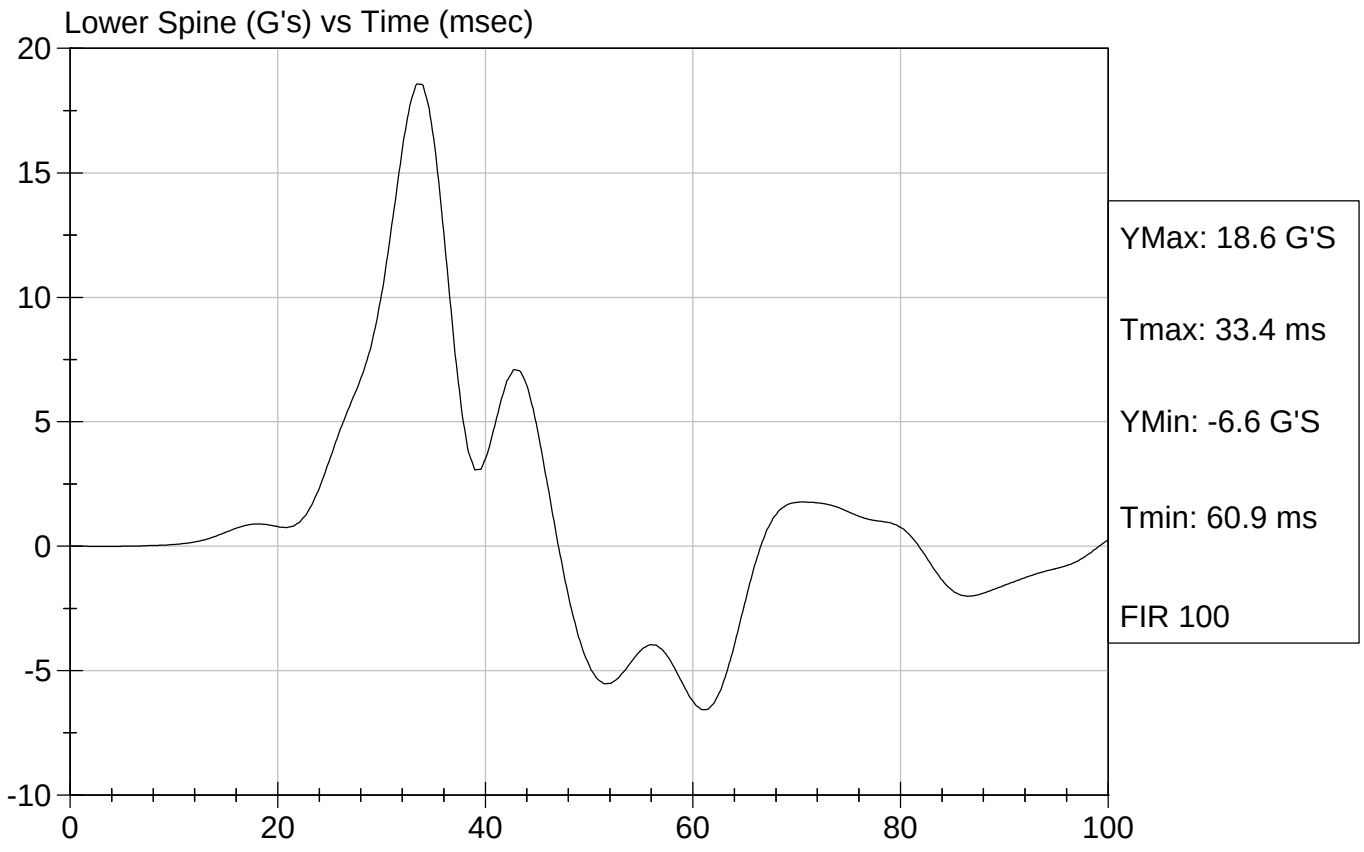


Lower Rib (G's) vs Time (msec)



Test Desc: Thorax Impact
Component ID: D04952

Test Date: 04/26/2004
Speed: 14.05 ft/sec, 0.00 m/sec



SID Calibration Data Sheet

Side Impact Dummy

Pelvis Impact Test

ATD Serial No: 271 **Test I.D:** D04953

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	22.0	Pass
Laboratory Relative Humidity	%	10 to 70	34	Pass
Probe Velocity	m/s	4.27 - 4.33	4.28	Pass
Pelvis Acceleration	G's	40 - 60	50	Pass
		Overall Test Results		Pass

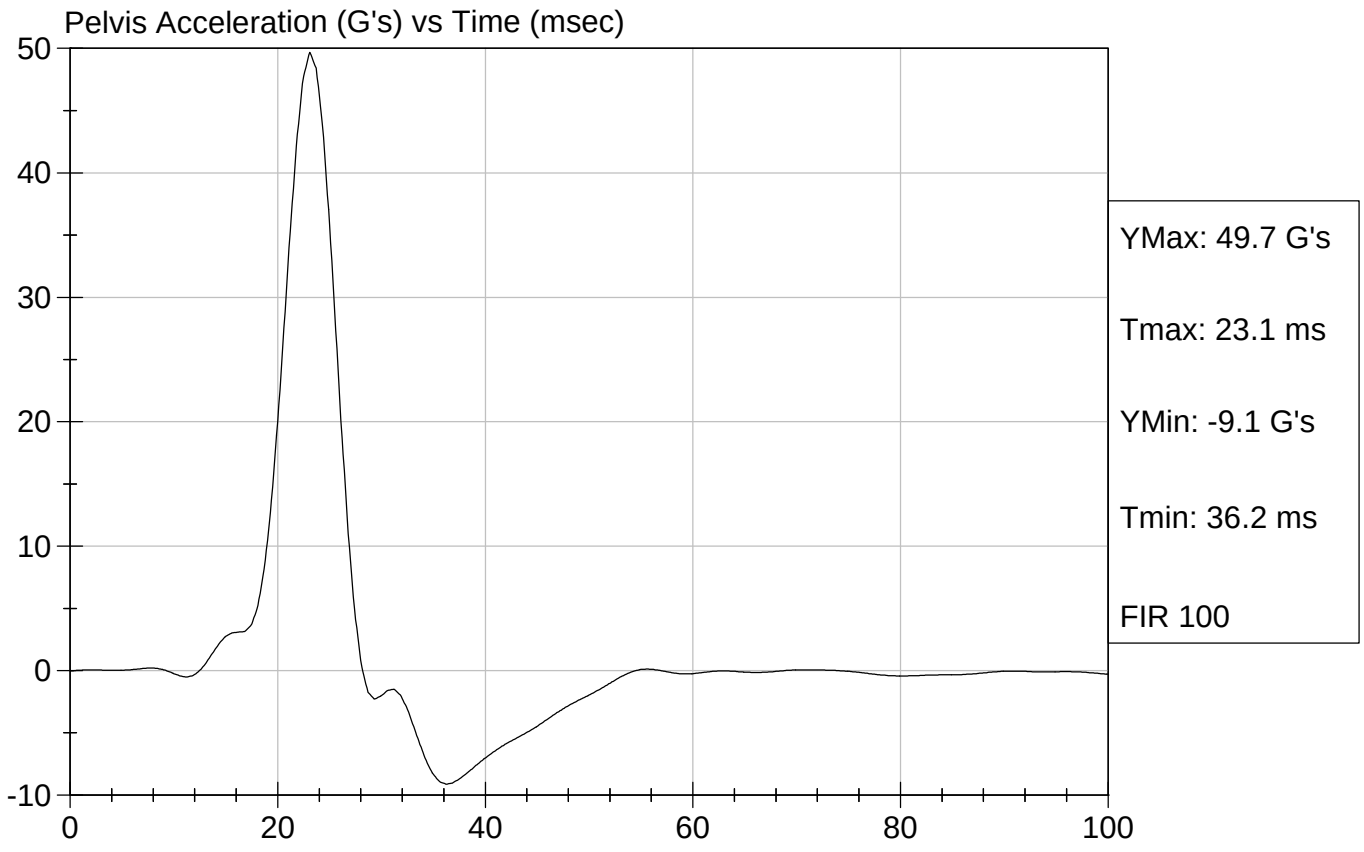
Jessica Gall
Laboratory Technician

04/26/2004
Test Date

Sujatika Naik
Approved By

Test Desc: Pelvis Impact
Component ID: D04953

Test Date: 04/26/2004
Speed: 14.05 ft/sec, 4.28 m/sec



SID Calibration Data Sheet

Side Impact Dummy

Abdominal Compression Calibration (Pre-Load = 10 lbs)

ATD Serial No: 271 **Test I.D:** D04954

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	22.0	Pass
Laboratory Relative Humidity	%	10 to 70	32	Pass
Force At 12.7 mm	N	104 -162	147	Pass
Force At 19 mm	N	163 - 222	205	Pass
Force At 25.4 mm	N	222 - 280	270	Pass
Force At 33 mm	N	325 - 391	369	Pass
		Overall Test Results		Pass

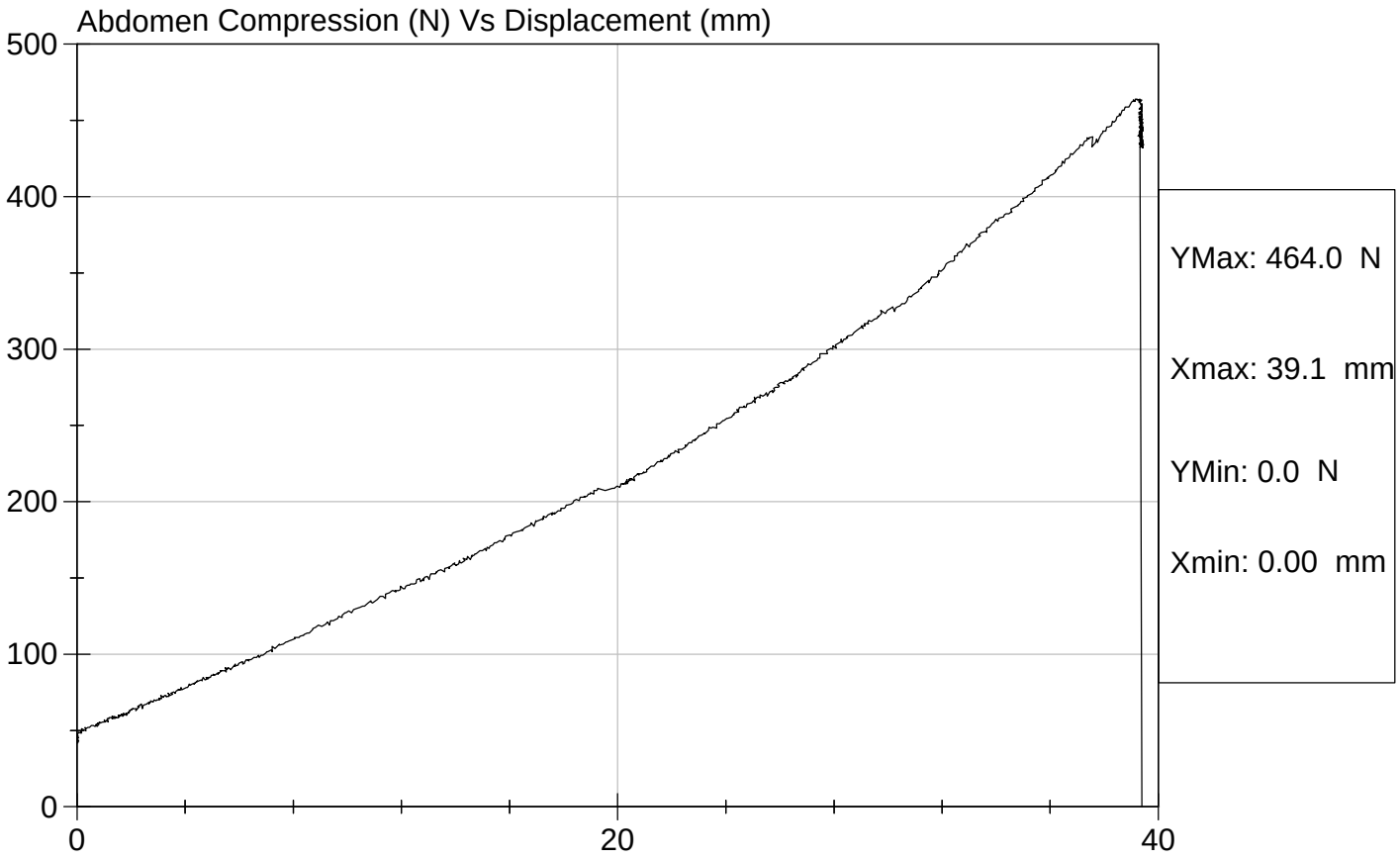
Jessica Gall
Laboratory Technician

04/26/2004
Test Date

Sujatika Naik
Approved By

Test Description: Abdomen Compression Test Date: 04/26/2004

Component: D04954 Speed: 0 ft/sec, 0 m/sec



SID Calibration Data Sheet

Side Impact Dummy

Lumbar Flexion Calibration

ATD Serial No: 271 **Test I.D:** D04955

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	22.0	Pass
Laboratory Relative Humidity	%	10 to 70	32	Pass
Force At 0 deg	N	0 - 26.7	0.0	Pass
Force At 20 deg	N	97.9 - 151.2	98.6	Pass
Force At 30 deg	N	151.2 - 204.6	173.8	Pass
Force At 40 deg	N	204.6 - 258.0	230.3	Pass
Return Angle	Deg	12 Maximum	4	Pass
		Overall Test Results		Pass

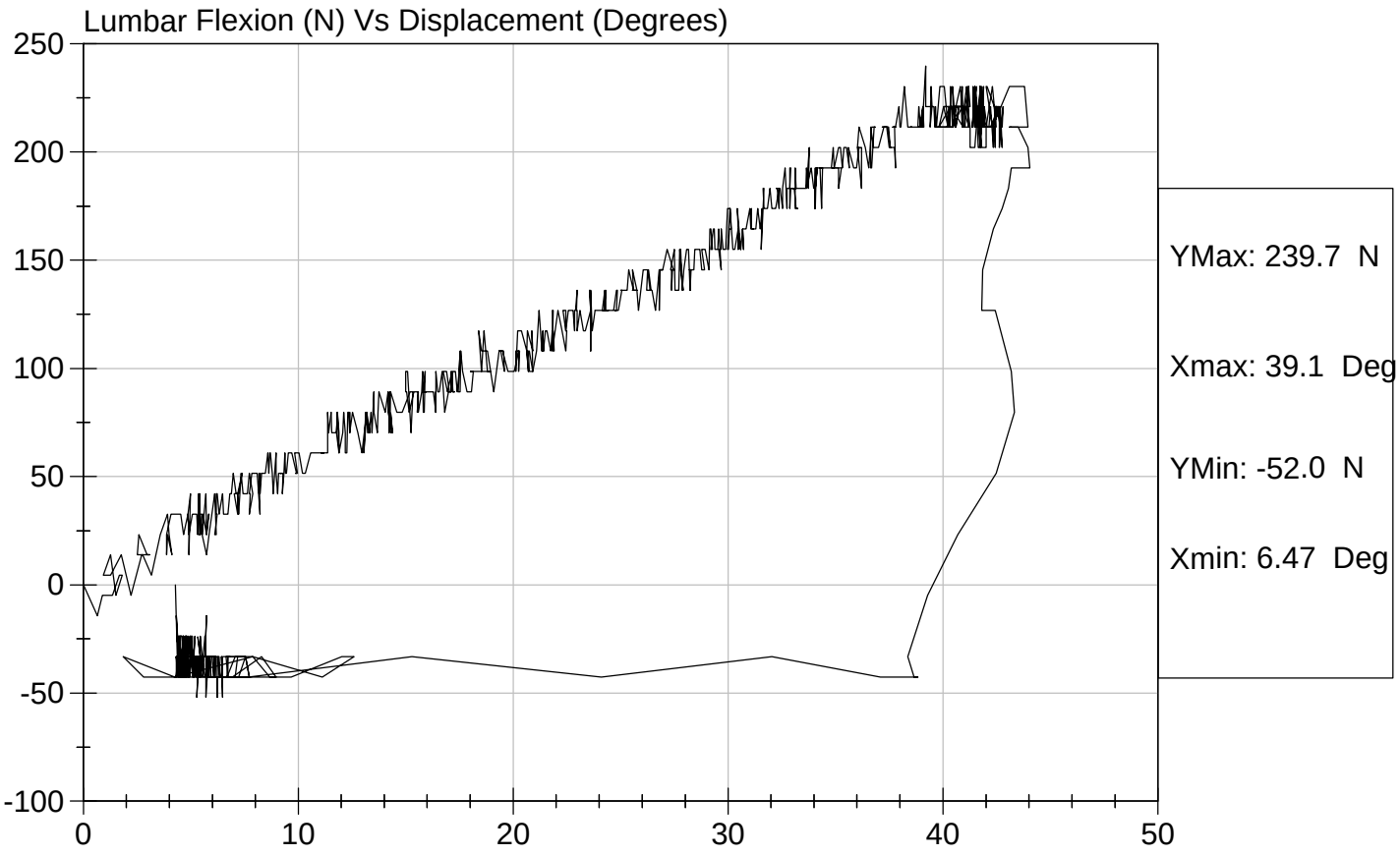
Jessica Gall
Laboratory Technician

04/26/2004
Test Date

Sujatha Naik
Approved By

Test Description: Lumbar Flexion | Test Date: 04/26/2004

Component: D04955 | Speed: 0 ft/sec, 0 m/sec



SID Calibration Data Sheet
Side Impact Dummy (SID)
Neck Pendulum Test

ATD Serial No: 271 **Test I.D:** D04959

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	22.0	Pass
Laboratory Relative Humidity		%	10 to 70	32	Pass
Impact Velocity		m/s	6.89 to 7.13	7.05	Pass
Pendulum Deceleration	10 msec	m/s	1.96 to 2.55	2.33	Pass
	20 msec	m/s	4.12 to 5.10	4.58	Pass
	30 msec	m/s	5.73 to 7.01	6.36	Pass
	40 to 70 msec	m/s	6.27 to 7.64	7.10	Pass
Midsaggital Plane Max Rotation		deg	66 to 82	74	Pass
Head Rotation Peak to Zero - Decay Time		msec	58 to 67	63	Pass
Max. Mx at Occipital Condyles		Nm	73 to 88	82	Pass
Mx Peak To Zero - Decay Time		msec	49 to 64	58	Pass
Mx Peak to Max. Head Rotation		msec	2 to 16	10	Pass

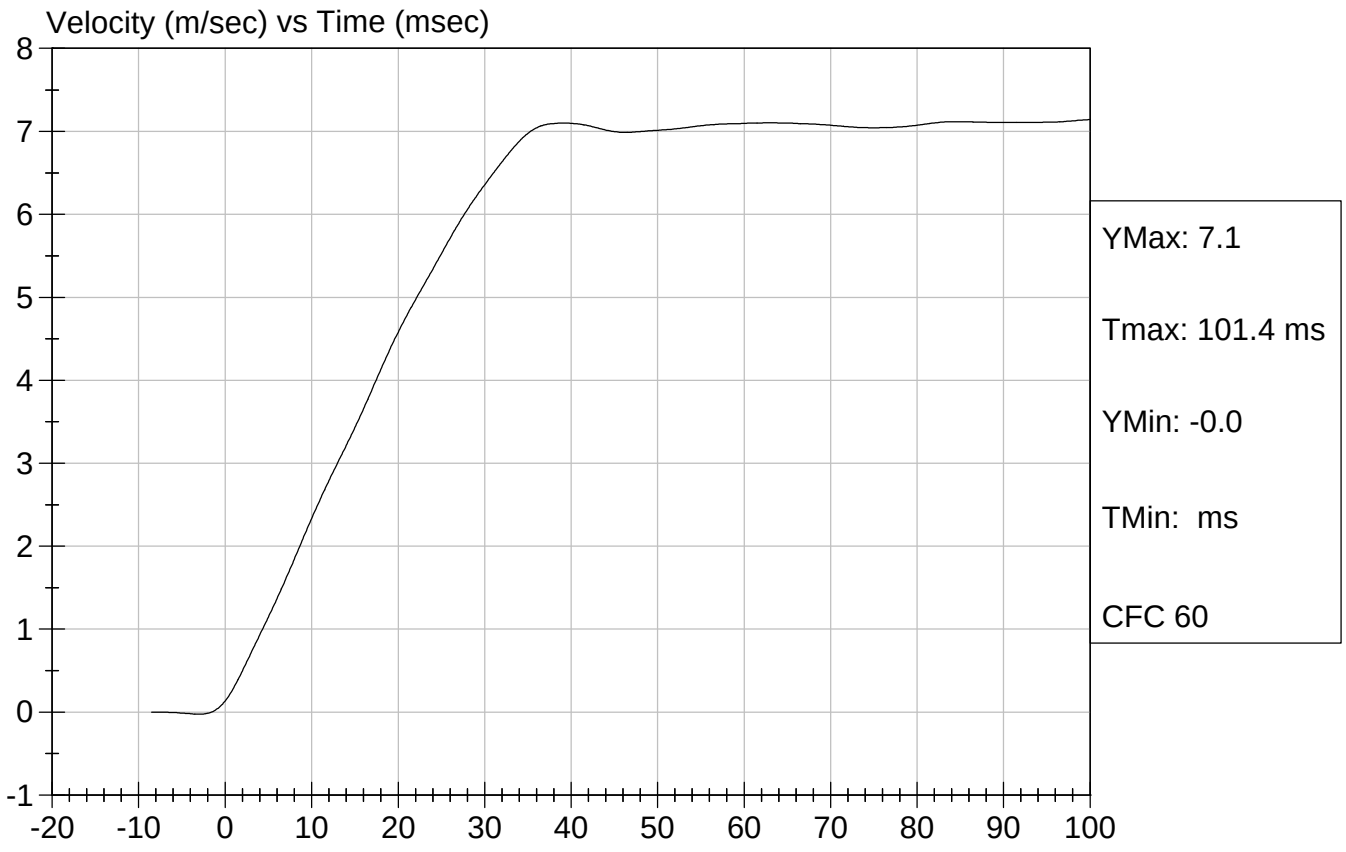
Jessica Gall
Laboratory Technician

04/26/2004
Test Date

Sujatika Naik
Approved By

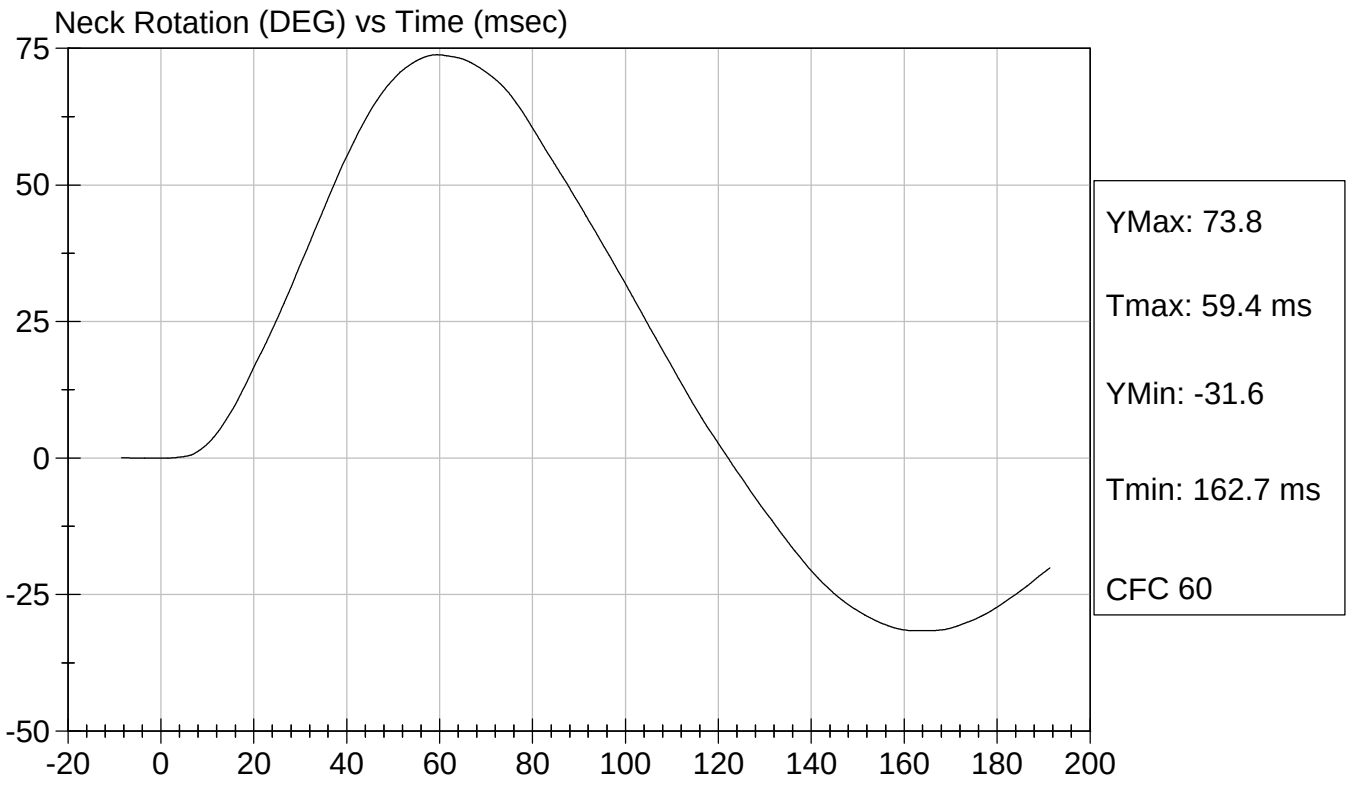
Test Desc: Neck Bending
Component ID: D04959

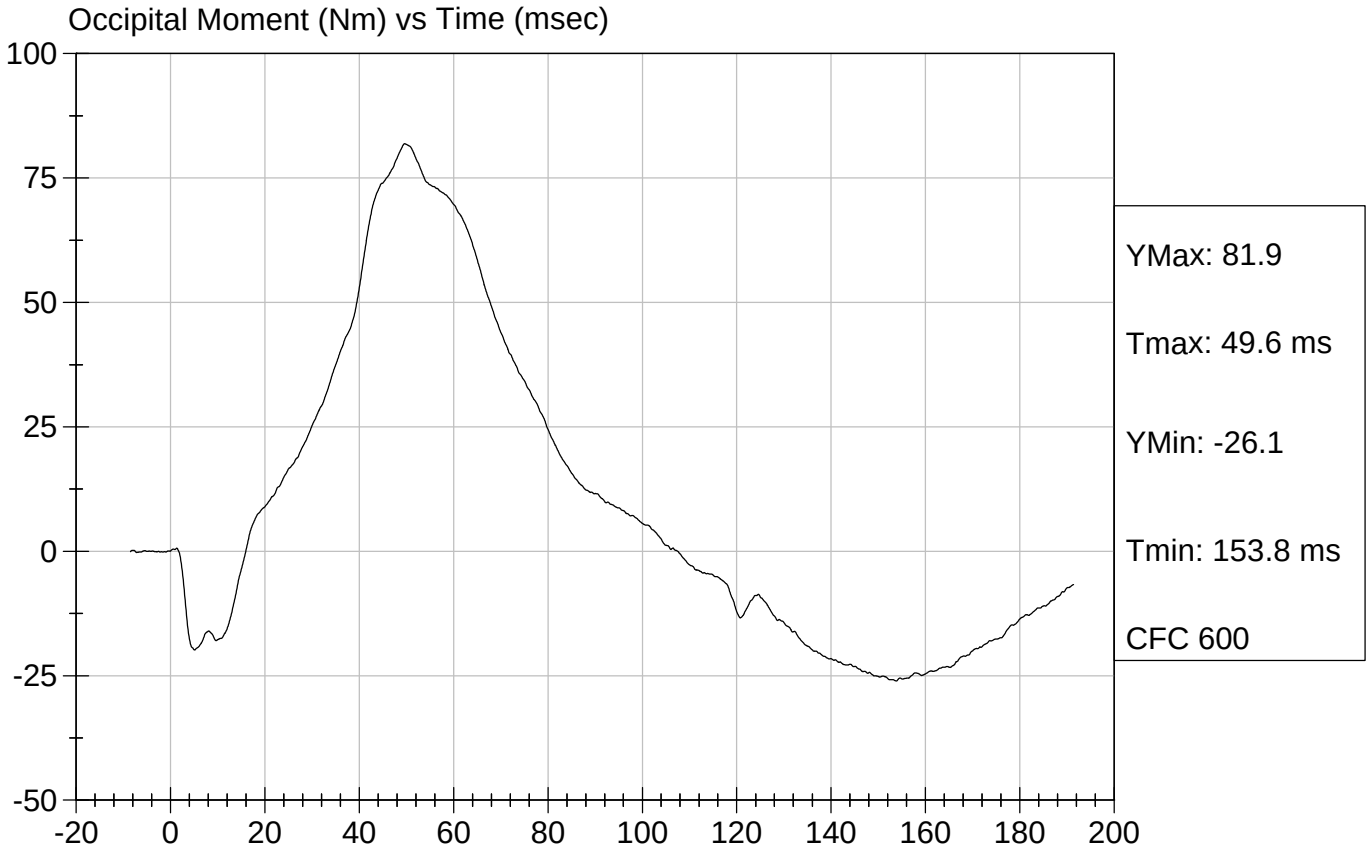
Test Date: 04/26/2004
Speed: 23.13 ft/sec, 7.05 m/sec



Test Desc: Neck Bending
Component ID: D04959

Test Date: 04/26/2004
Speed: 23.13 ft/sec, 7.05 m/sec





SID Calibration Data Sheet
Side Impact Dummy
Inspection Checklist

ATD Serial No: 271

Test Part	Items Checked	Result
Skin	Visual inspection	Pass
Head	Visual, ballast, accelerometer mount	Pass
Neck	Visual	Pass
Spine Box	Visual, ballast, accelerometer mount	Pass
Rib Cage	Visual, measure	Pass
Sternum	Visual	Pass
Lumbar Spine	Visual	Pass
Abdomen	Visual	Pass
Pelvis	Visual, palpate, accelerometer mount	Pass
Upper Legs	Visual	Pass
Knees	Visual	Pass
Lower Legs	Visual, range of motion	Pass
Ankles	Visual, range of motion	Pass
Feet	Visual, range of motion	Pass
Joints	1 to 2 g range	Pass
Other		Pass

Jessica Hall
Laboratory Technician

04/26/2004
Test Date

Jayashree Naik
Approved By

APPENDIX D

TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION

	INSTRUMENTS FOR DRIVER DUMMY NO. 904		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Upper Rib Y	J12450	Endevco	11/09/03
Lower Rib Y	J10420	Endevco	11/09/03
Lower Spine Y	AJ9F3	Endevco	11/09/03
Pelvis Y	AJ4K2	Endevco	11/09/03
Upper Rib Redundant Y	J12461	Endevco	11/09/03
Lower Rib Redundant Y	AJ820	Endevco	11/09/03
Lower Spine Redundant Y	AJ621	Endevco	11/09/03
Pelvis Redundant Y	P26988	Endevco	1/14/04
Head X	P22084	Endevco	12/05/03
Head Y	P22694	Endevco	12/05/03
Head Z	P22203	Endevco	12/05/03
Head Redundant X	P22695	Endevco	12/05/03
Head Redundant Y	P24216	Endevco	12/05/03
Head Redundant Z	P24226	Endevco	12/05/03
Neck Load Cell	606	Denton	3/24/04

DUMMY AND VEHICLE CALIBRATION DATA

	INSTRUMENTS FOR PASSENGER DUMMY NO. 271		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Upper Rib Y	J11625	Endevco	11/10/03
Lower Rib Y	AN8M6	Endevco	11/10/03
Lower Spine Y	AGP28	Endevco	11/10/03
Pelvis Y	AJ420	Endevco	11/10/03
Upper Rib Redundant Y	J10730	Endevco	11/10/03
Lower Rib Redundant Y	AN8P9	Endevco	11/10/03
Lower Spine Redundant Y	AJ9A7	Endevco	11/10/03
Pelvis Redundant Y	AMTA3	Endevco	11/10/03
Head X	J22107	Endevco	11/13/03
Head Y	J22055	Endevco	11/13/03
Head Z	AMTB8	Endevco	11/13/03
Head Redundant X	AGTY4	Endevco	11/13/03
Head Redundant Y	AK956	Endevco	11/13/03
Head Redundant Z	AHRP5	Endevco	11/13/03
Neck Load Cell	376	Denton	3/01/04

VEHICLE INSTRUMENT CALIBRATION

	VEHICLE ACCELEROMETERS		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Left Mid A-Post Y	A27-R01	Entran	4/16/04
Left Lower A-Post Y	A29-N10	Entran	3/11/04
Left Mid B-Post Y	L18-N20	Entran	3/30/04
Left Lower B-Post Y	L19-K03	Entran	3/30/04
Floorpan @ Rear Axle X	E01-F03	Entran	11/12/03
Floorpan @ Rear Axle Y	I15-Z01	Entran	11/11/03
Floorpan @ Rear Axle Z	K18-D14	Entran	12/15/03
Driver Seat Track Y	A08-M02	Entran	3/09/04
Left Rear Seat Track Y	K21-N27	Entran	2/03/04
Right Front Sill X	K07-R11	Entran	1/21/04
Right Front Sill Y	K07-R08	Entran	1/21/04
Right Front Sill Z	K18-J04	Entran	1/21/04
Right Rear Sill X	K07-R17	Entran	1/21/04
Right Rear Sill Y	L18-J06	Entran	1/30/04
Right Rear Sill Z	K18-D17	Entran	1/21/04
Left Front Sill Y	L17-D05	Entran	3/30/04
Left Rear Sill Y	H01-N23	Entran	2/23/04
Right Rear Occupant Compartment Y	L18-N11	Entran	1/30/04
Vehicle CG X	A29-F09	Entran	3/11/04
Vehicle CG Y	A29-B10	Entran	3/11/04
Vehicle CG Z	A29-B06	Entran	3/11/04